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Current Notes

Vol. 7 No. 7 September 1987

IN THIS ISSUE

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TABLE OF CONTENTS

Volume 7, No. 7 -- September 1987

SPECIAL FEATURES

TORONTO DEALERS SHOW: Preview of the Fall Lineup, *Glenn Brown*..... 10 --
AN INTERVIEW WITH BILL TEAL: Q & A With pc-ditto Author, *Joe Waters*.. 14 ST
INDEXING ON THE 8-BIT ATARI: Tutorial on NOTE and POINT, *John Mackie*. 28 XE
ST WORD PROCESSING: Current State of the Art, *Frank Cohen*..... 44 ST
MS DOS ON THE ST, PART 1: Cultural Shock for GEM Fans, *Wm. Price*..... 48 ST

REGULAR FEATURES

EDITORIAL, *Joe Waters*..... 4 --
ST UPDATE: Latest News from the World of ST, *Frank Sommers*..... 6 ST
ATARI SCUTTLEBITS: A Look at GEnie's Roundtable, *Bob Kelly*..... 18 --
ITS A SMALL WORLD: The Greatest Hacker of All Time, *Dave Small*..... 20 --
PIECES OF EIGHT: Atari Junkie, *Len Poggiali*..... 23 XE
TIPS'N'TRAPS: Q & A for Adventurers, *Jim Stevenson Jr*..... 24 XE
ATARI'S SMALL MIRACLES: Reader Requests, *Mark A. Brown*..... 30 XE
ADVENTURES IN THE MAGIC SACDOM: Hard Disk Support and the Translator, *Jeff Greenblatt*..... 32 ST
RELAX AND ENJOY: Arcade Addiction, *Joe Kuffner*..... 54 ST
ATARI BOOKSHELF: ST Programming Books, *Pamela Rice Hahn*..... 60 ST
Electronic Computer Projects, *Carl C. Hahn*..... 61 XE
MUSIC, MIDI, and YOU: Michtron's Super Conductor, *Grant Slawson*..... 64 ST
WAACE CLUB NEWS..... 76 --

PRODUCT REVIEWS

AVANT-GARDE's pc-ditto: Finally, IBM Emulation, *Mike Gibbons*..... 12 ST
AUTODUEL: A Mixed Bag, *John Godbey*..... 26 XE
STYLE WRITER: Next Best Quality to a Laser Printer, *Wm. Price*..... 36 --
CYBER STUDIO, PART I: CAD 3D Version 2.0, *Bill Moes*..... 40 ST
BARBARIAN: Game of the Month? *Kurt Osterman*..... 52 ST
DATATRIEVE: An ST File Manager, *John Barnes*..... 56 ST
TRUE BASIC? What? Another BASIC for the Atari? *Andrzej Wrotniak*... 66 ST
LABELMASTER ELITE: Ultimate Mailing Label Program, *Milt Creighton*.... 70 ST
ST WARS: Time To Save the World Again, *Roger Abram* ..... 72 ST
CERTIFICATE MAKER: Certified Ease for Awards to Everyone, *Bill Moes*.. 74 ST

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EDITORIAL

By Joe Waters

Welcome back from the summer holidays! I trust everyone was able to take at least some time off to get away from work (and computers?) and relax a bit. As I write this, it is just past mid-August, but as you read it, September will be here, people will be back at work, school will be starting, football will, once more, dominate Sundays (Go REDSKINS!!!), in short, it will be the start of the "fall season." And in the microcomputer industry, the fall season is a very important one indeed for that is when you and I and a lot of other computer fans start gearing up for an electronic spending spree that will take us into Christmas.

What we finally decide to buy will have a major impact on the fate of software developers, peripheral manufacturers, and computer companies themselves. What are our choices? IBM shoppers must ponder the pros and cons of the latest generation of clones (both low and high-priced), the standard, but vanishing XTs and ATs, and the new PS line introduced by IBM. Anyone at all familiar with that market will understand that the choice is not at all clear cut particularly since many of the "benefits" of IBM's new line require a new operating system which isn't here yet. Apple fans can consider upgrading to the Mac SE or the very impressive, but expensive, Mac II. For those who choose to move up to the II or put more memory in their Macs, Apple just announc- ed a multi-tasking version of Finder along with a new program, called Hypercard, which will be bundled with all new Macs and provided to current owners very cheaply. (Hypercard, by the way, is the BEST software product I have ever seen and marks a major advance for the industry.)

What about Atari? Well, while IBMers still struggle with their 640K barrier, Atari owners, who routinely have 1Mb machines now, will soon be boosting them to 2, 3, or 4 Mb by purchasing the new Megas, or, more frugally, by expanding their current 520s or 1040s. What's more, Atari owners are the only ones who can enjoy their native GEM-based system, then switch to running Macintosh software on their STs, and, now, thanks to Avant-Garde, run MS-DOS software as well.

In this issue you can read all about the new IBM emulator for the ST as well as get a peek at the fall lineup shown Canadian Atari dealers in mid-August. Of course, as you can tell by the weight of this issue, there are many more treats in store for CN readers. We have produced a record 80 pages and I only wish it could have been more. Welcome back CN readers.

ST UPDATE

By Frank Sommers

LATEST NEWS IN THE ST WORLD

The Board Room Hath Wrought

Wanted Posters -- Who was at the meeting? Dealers around the country are mounting "Wanted Posters" on their walls with clear sharp pictures of Sam, Father Jack, Len, somebody called Brown, Sig and Niel. Those are the main faces, some of them in the final meetings, that made the decision. Who are are the dealers? They are the ones that have been supporting Atari for the past seven years, the old Atari, the New Atari, just plain old Atari. They have established repair facilities in their shops to qualify to sell the 1040 ST's, taking the customer service monkey off Atari's back. They are the dealers who have listened hopefully to last winter's announcements of the three new products and then have gone thru a tense dry spring and an even tenser drier summer, hanging on and hoping. What were they hoping for? That their stores could make it until the new machines were in stock and selling. Selling the Mega ST's, the laser printers and the Atari PC's, those machines that the American press was told about last winter with April delivery dates, exception the laser printer. Then when the Mega's were about to come out the dealers began hearing about the meeting, the meeting that established the criteria for who would get the new Mega ST's. When it all sinks in, when it becomes apparent who will sell Mega ST's and who won't, that's when the "Wanted Posters" will go up.

ESF and Showrooms -- The price on General Manager J.J. Brown's head will be as high as that on Jack Tramiel's. Apparently the former pushed the concept of using value-added retailors (VAR's) to sell the new line. The last couple of years had made it clear that dealers had competed so intensely with each other that profits had almost evaporated. The cure was clear and simple. In fact it was beautiful, slay three devils with one sword; what a triad! First get the price up there where new VAR dealers could identify a serious profit. Secondly, point the new line toward a more dignified business market, and thirdly restrict distribution of the new machines to dealers with an EXTERNAL SALES FORCE and "proper sized" show rooms, e.g. like Computerland's. ESF meant dealers who had personnel who could be out on the road, making calls on small businesses and demonstrating machines. Now who could knock an idea as compact as that? Eliminate the lack of dealer profit, upgrade the image of the product, and advance into a new verticle market?

Complain? Only about 75% or more of Atari's current dealers, who have barely been able to keep two or three sales personnel on board and survive to date, and who now would be required to set up an ESF, and in many cases lease new show rooms.

Yes, those dealers, at the end of last month, were being "requalified". That doesn't mean tested for aides, as they are doing in Washington, or taking lie detector tests as they also want to do here, it only means "show that you are qualified to sell our product", and be prepared for unannounced inspection visits from Atari. Interestingly, most dealers who have commented on the matter find it "probably a positive step". None of them, themselves, have sensed that they might be eliminated as Mega ST dealers. Yet, several have commented that "competition" may be forced to change its ways. Competition might be the discounter or "the other guy", like San Jose Computers, one of Atari's biggest sellers. Unfortunately, their store front is too small, and unless they are able to change .... well, everybody should know, "Business is War".

Hardware

Mega ST's -- Does the news get better? Not really. The "New Atari" is changing its slogan to fit the new merchandising efforts. "Power Without the Price" will have to be reduced to "Power". The new Mega ST2 is reported to be selling in the mono version for $1,699 with $300 add-on for the color version. Similarly the Mega ST4 ostensibly will list at $2,299 mono and $2,599 color. When will they be on dealer shelves? Confusion over this matter is at a peak. The best of the cogniscenti are in hopeless disagreement. One source had them shipping to dealers before 1 September; he had seen a warehouse full of them, and they were only awaiting final papers from the FCC. Another had them shipping on or about the same time but to developers only. Not only have dealers not been certified, but there was talk of distributors being realigned also. The market would be divided into seven regions, but Atari would control the machines going to the dealer by having the $$ chain go thru ITT, the financial lender inserted between the dealer and Atari. That meant that no discounting would be tolerated. Whereas Atari would receive its money from ITT the day the machines arrived at the dealer, the dealer would then pay ITT in 30-days

or incur brusing interest charges.

And the Blitter & Roms -- Machines are out there now with the blitter in them. One is at Atari Canada; it works perfectly. Another is at BYTE magazine; it has a big "SAMPLE" stamped in purple ink on its case to insure its return after the review is finished. Mega ST's with blitters, 300 of them, purportedly cleared customs on 3 August of last month. Only 25 of them as tested by Atari worked. So "quality control" is once again an oft heard phrase at Atari headquarters. The new ROM's are now in the hands of developers. Curiously, the only internal clock that will work with them is the one from now defunct Shanner International.

Upgrades -- New World Software in San Jose, California, in addition to its *MULTI-MANAGER* point-of-sales accounting program, is also selling an upgrade board for the 520 and 1040's to allow you to install 1 meg ram chips and make your own Mega ST2 or Mega ST4 sans detachable keyboard and expansion slot. By mid-August, after the news of the price of the Mega ST's had appeared on Genie, calls to New World increased by some 3000 % in 10 days. The board is $139.95 and requires you to make eight simple solder connections if you go all the way to 4 meg. Its advantage is that it can be retrofitted with the blitter when the latter finally becomes available. Cost of a 4 meg upgrade? Board plus chips plus installation fee = $139.95 plus $640 (32 chips x's $20) plus $40 to install it at your local Atari service facility = $819.95. Conversely, JAF Data Systems of Chicago [2217 West 109th Street, Chicago, IL 60643, (312) 238-4348] will do a total 4-meg upgrade with a snap in board plus internal clock for $840. JAF views the snap in board as a better solution because of height and positional restrictions plus increased repair costs for machines with soldered boards. So take your pick. When you consider that a Mega ST4 costs roughly $900 more and all you currently get is a detachable key- board, plus expansion slot, your zest for the new machine slacks off. We suspect the sales of 1040's and 520's may quietly pick-up.

Music -- In mid-summer J.J. Brown, General Manager of Atari, announced that Atari would be selling the 1040 STFM in music stores. A sound move if you consider that computer music fans are increasingly recognizing the ST is the machine for the midi and making music with synthesizers. Casio now has a synthesizer only, no keyboard, which plugs into the midi port of your ST. You can then plug in the keyboard or drum machine of your choice. The 1040 STFM is a 520 in a 1040 case with an RF modulator so you can use your TV as a monitor. The built-in disk drive is currently single-sided. The price will be the same as that of the 520 ST, but presumably without a monitor. Memory upgrades are difficult since it has been "wave soldered" which means all holes on the board are filled with solder. The single-sided drive can be replaced with a double for as little $110.

Drives & Boards & the PC -- For those of you who have trouble keeping any free space on your hard drives, Supra is coming out with a new hard drive with 250 mega bytes of storage capacity (the last 58 meg will require a software patch to access) for $4000. Indus in a somewhat lower price range has a new double-sided drive which includes a track counter for $199. However it will handle only a flat 80 tracks, i.e. if you have a program with protection in track 82, the drive will not run it. And Vega, the company which designed the color board the Atari's PC is selling its own EGA board for $199. (JAF sells a Boca color board for $149.) Those of you who have been tracking and waiting for Atari's PC clone to appear may have to give up. The $699 Atari PC was attractive when priced against other clones because it had the EGA color board included and the price of then existing color boards drove the price of the other clones far past Atari's machine. Now with the Vega Video-7 board out there for clones, Atari has lost its price edge, e.g. a clone in the mid-west with a built in 10 meg hard drive sells for $799. Rumours abound that Sam Tramiel is against bringing out the PC, only a few have actually been built and FCC approval is way over on the other side of the mountain.

Where is the Laser -- In this most confusing period, where tying down the facts is apparently more impossible than usual, the laser pops up as being shipped along with the Mega's as originally announced last winter. Word is that it's engine is built by a U.S. subsidiary of Toshiba's, TEC Corp. It will use the Mega ST's memory and not have PostScript. Contrast that with the statement by Soft Logic that they will build a printer translation driver for it when it appears, but they don't expect that to happen until the end of the year?

Software

PC-ditto Boosts the ST -- Bill Teal, Co-presi- dent of Avant Garde, remarks that he has received a host of calls from business houses and computer supplier firms about the ST running MS-DOS. One of the top ten software companies in the country called, echoing the voice and questions of the others, "If the ST has that powerful an engine and that speed, why haven't we heard about it before?" Teal says that people in computer-related business are discovering to their amazement that a machine of that power and low cost is out there. Teal announced earlier

that he and a group plan to push the developement of business products, software and peripherals for the ST and increase awareness in the business community about the machine. He would appear to be highly capable of doing this. (See review of his product elsewhere in the issue.) For those of you who are waiting for the update version of PC-ditto that will run on the monochrome monitor apparently there is a short patch (not of PC-ditto origin) being offered on GEnie called PC-Patch, which can be fed into PC-ditto and bingo you have a mono version.

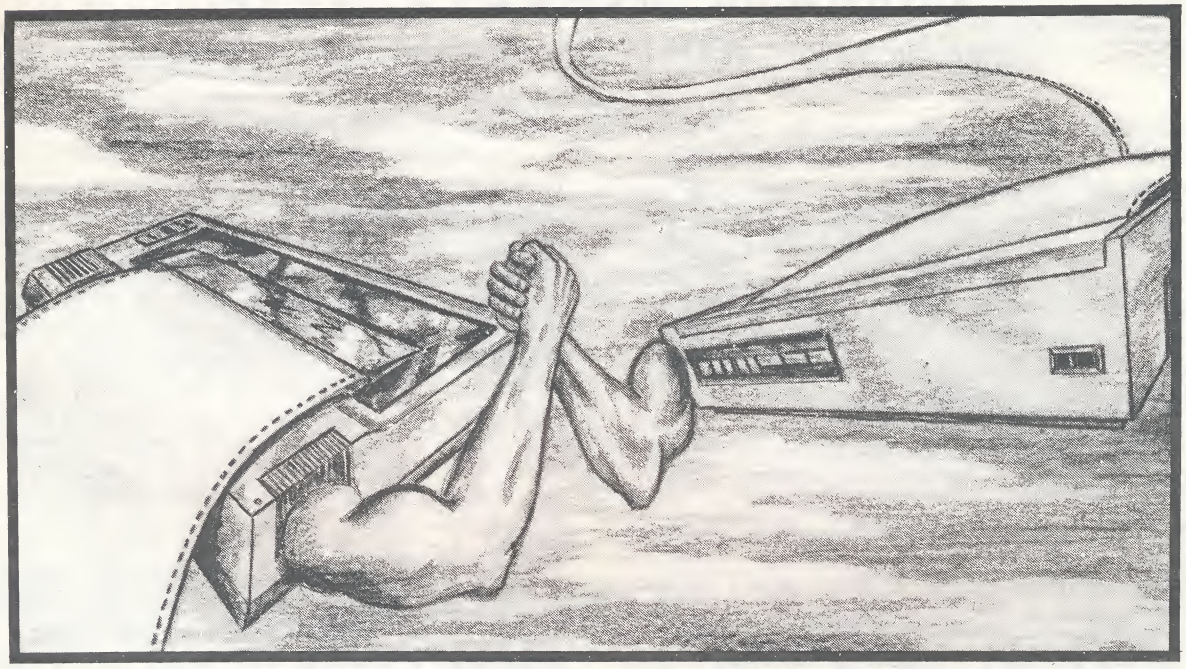
Exciting & New & Not too Distant -- Two new drafting and cad programs are on the way, *ATHENA II* and *M-CADD* the latter with 2D or 3D. *SIGNUM*, the British word processor is about to dock. It supposedly turns your 9-pin printer into a machine that can produce laser quality print. For sports fan's the ultimate football game is *GRIDIRON* distributed by Electronic Arts but produced by Bethesda Softworks of Bethesda, Maryland. It does not pretend graphics, using but mere colored dots to designate players, but its tactic, strategy and playability is wounding, to your time that is. Another of a similar capacity for devouring the minutes is *BARBARIAN* (reviewed elsewhere in the issue), an arcade adventure that almost makes you think interactive CD ROM is here. Releases for the fall include *JUPITER PROBE* by Mindscape who has bought the entire lot of Atari arcade machine games that were never produced for the 8-bit computers. *PHANTASIE III*, for the adventure buffs, is living up to its billing, and wives are beginning to complain, *ELEVATOR ACTION*, an arcade special from England, and *ICE & FIRE*, a three disk, two meg, art-quality graphic adventure game. Up Canada way they claim that *GAUNTLET* blows away every other arcade game extent for the ST. Finally, *WORD PERFECT*, (which Frank Cohen's article in this issue makes clear is not "the only word processor") is set to appear on stage with trumpets blaring by the end of September. And as you read this, the inimitable STWRITER will be out in its new GEM suit, version 2.0, together with version 1.80 for those who eschew the GEM window approach.

Chastity Belt

Where Did the Money Go? -- Some of you have been reading about a new abuse, not a chemical abuse, but an electronic one. It's called Minitel and only the French could have concieved of it as artfully as they have. What is it? Originally it was to be the first electronic telephone directory and distributed free to French telephone subscribers. Along with the 4,500 consumer services that you can access day and night, Minitel was a kind of passport to romance that created "France's first hightec addiction", according to CN author, Florence Cushmen, and writer, Justinne De Lacy, who have done extensive research on the phenomenon. The core of the addiction are the 400 plus "messageries" (don't mis-translate) which are direct-dialogue message services and function as confidante, confessor, psychiatrist and sometimes lover. For the serious devotee there are the "rose" message services, with names like "Sextel" and "Aphrodite". Sometimes people actually meet after spending hours "on line" with each other. Wives have sued for divorce, naming a particular "messagerie" as the correspondent in the case. One husband, suspecting his wife of having "an affair" via Minitel cut her wires. She spliced them. Then he cut them into inch long pieces and threw the set out the window. The phrase now is, "Put a Minitel into a bad marriage, and its over!" Many Minitelistes are telling their new electronic pen pals things they have never told anyone. One woman told her friends she was leaving her husband for a "wonderful man" she had met on Minitel. When asked what he looked like, she admitted to never having seen him. Another woman who got her Minitel the day her husband left her, told a friend she had learned more about life in one night at the keyboard than she had in twenty-five years of marriage.

While adults are "big users" they are not alone. When a call-in TV show asked children to respond by Minitel, instead of by regular telephone, instead of the usual 50, 500 children responded. Purportedly, the growing hunger for "communication" is replacing the famous French "bon appetite" with growing numbers of people staying in their offices to "talk" on Minitels during lunch. Recently a special "Commision Telematique" was convened to decide whether existing pornography laws could apply to Minitel. These sessions were characterized as similar to a town meeting discussing what to do about flying saucers that landed in the town park, much chuckling, much laughter and little else. The phone company was quick to deny any responsibility, shifting the blame to the private companies who provide the software. The fact is that the Minitels are making too much money for anybody to want to do anything about them. "Messageries" have sprung up all over France. And the short of it, many people go into shock when they get their phone bills for their addiction, often storming the Telecom office, swearing no fool could have used the Minitel that long. The record set by a single woman in Besancon, was 70,000 francs (about $11,666) in a month. It meant she had to spend over 500 hours on the service; not bad when you consider there are only 720 hours in a month. In the next CN, we will explain how the French Government actually put a chastity belt on the public, one and all, or was it the "messageries"?

When Printers Get Down to Business



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1st XLEnt Word Processor $29.95 By Castell

A fully featured, friendly and fast word processor. 1st XLEnt Word Processor uses a joystick and icon interface, has toggle between full-screen windows, and a very readable 80-column print preview to see what your document will look like. According to Antic Magazine's January '87 review, 1st Word is, "As good or better than any other word processor you'll find for the 8-bit Atari". 48K disk

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TORONTO DEALERS SHOW

Canadian Atari Dealers Preview the Fall Lineup

by Glenn Brown

Toronto, Ontario, August 16. This past weekend (August 14-16), Atari Canada sponsored a new product show and software showcase for its dealers. The press and user groups were also invited to attend. The main purpose of the weekend was a series of seminars for the dealers and MEGA dealers but the software booths were more than enough to keep me happy.

First, the news. The MEGAs are now being shipped to Canadian dealers in limited quantities. Atari Canada has initiated a value added approach in granting MEGA dealerships. Each potential MEGA dealer must meet three criteria: an external sales force, a large retail outlet, and an agreement not to discount the MEGAs which will sell in Canada for $2,300 for the MEGA 2 and $3,300 for the MEGA 4 (Canadian dollars). Initial units are being shipped without the blitter which will be a free upgrade when available this fall. Atari was showing all of its announced product in production form. The MEGA 4, the Laser, the PC, the 7800, and even the XE game system.

Let's take a walk around the show (actually, an alphabetically tour) and see whats coming this fall. ABACUS was showing their books along with *PaintPro*, *TextPro*, *PowerLedger*, and *DataTrieve*. Coming soon are *ChartPak ST*, *Electra-Spell*, and *BeckerText ST*, a high-end word processor with column math, auto hyphenation and indexing, multi-column output and more.

Analog magazine was there but, unfortunately, the magazines that were shipped to the show didn't make it on time.

Antic magazine was displaying a couple of programs that had everyone drooling: *Spectrum 512* and the extensions to CAD 3D: *Cyber Control* and *Cyber Paint*, due to be released in October. All will sell between $70 and $90. Joe Chaizese [*Flash*] explained the programs to me. *Cyber Control* is an interpreter for CAD 3D and *Cyber Paint* is for video processing of animations. *Cyber Paint* also doubles as a very powerful paint program. *Cyber Studio*, version 2.02, adds hierarchial motion (it handles connected objects). I am not sure if I grasped the differences, but the results are spectacular - 3D animations that Walt Disney would have been proud of! They have an animated skeleton that has to be seen to be believed.

Spectrum 512 is Antic's new 512 color [up to 48 colors per scan line] paint program. A few of the highlights: three types of automatic anti-alaising, dithering, image processing / colorizing (brightening or dulling of colors), block movement with resizing done using pixel averaging (this results in a very smooth resizing). The program can read DEGAS, NEO, IFF (512 color Amiga pictures with 512 colors), HAM (4,096 color "hold and modify" Amiga pictures converted to 512 colors) plus it's own SPC compressed format. Look for the pictures up on the boards: they are worth a look!

Artworx's display featured *Bridge 5.0*, their best product yet. Baudville was promoting their first two ST titles: *Video Vegas* and *Award Maker*. Beamscope, a Canadian distributor, had a range of software. Popular demos included Sierra's new *Leisure Suit Larry*, *Fantasy 3*, and Psygnosis' outstanding *Barbarian*. Compucable showed their *SpectraView II* information display cartridge, one of the few XE products there, while Coursemaker showed their educational products including an English instruction program.

In the Data Pacific booth, I finally got to meet David Small, creator of the Magic Sac. This product has come a long way since its introduction. Dave was demonstrating Version 4.5 which includes automatic error correction, hard disk support, (limited) sound, and runs just about everything. Also on display was the Translator, the Magic Box that allows your ST drive to read and write Macintosh disks. One of the interesting side benefits of the Translator: because the box changes the speed at which data are read and written, it was easy for Dave to add the code to make it a low-level bit copier which means that it should copy just about everything! The Translaotor will be available in late September for about $199.

Epyx's booth was packed with manufacturers playing their games. New titles this fall for the ST include *Spy vs Spy III: Artic Antics* and *Boulder Dash Construction Kit*. Alain Plouffe and Raymonde Desfreniers were showing off the best disk magazine out: FaSTer. Those who haven't seen this underpriced disk magazine don't know what they are missing. Foresight Resources were showing *Drafix 1/Atari ST*, a high-powered CAD program ported from the PC world, due for release by the beginning of September. As this and other programs mentioned below indicate, the ST is

fast-becoming the computer of choice for CAD software.

General Electric was there promoting their GENie BBS while Hybrid Arts brought their complete MIDI line featuring their analog to digital processor (ADAP) unit, MIDI Track ST series, and their very successful DX and CZ Android Programs.

ICD displayed their new ST hard drive which was labeled "F20A ST Hard Drive". (The box, however, actually contained two 30 MB drives.) Interesting features include multiple SCSI ports, DMA in and out ports, a fan, and a clock! The 20 MB unit, due out in about two months, will sell for the same price as the Atari drive.

Inagem Technologies showed *Agenda+*, a very clever calendar/ phone book combination. ISD brought the updated versions of VIP: *GEM Version 1.2* and *TEXT Version 1.2* as well as *Master Plan* (a *1-2-3* clone without macros or a database). Looking Glass Software had, of course, their *Alice Pascal* on display. MichTron and Microdeal showed more ST product than any six other manufacturers: *Airball*, *Jupiter Probe*, *Gold Runner*, *GFA Basic*, *GFA Vector*, etc., etc. They also had their own version of the Mitsubishi tablet. (see below)

Micro D demoed Avant-Garde's, *pc-ditto*. Of interest to adventure gamers, was the fact that they had on display the box for *Dungeon Master* (no game, just the box) which will finally be out this fall along with *Defender of the Crown*.

Migraph had the author demo *M/CADD*, their soon-to-be released 3D CAD package. Not only does this program outperform *AUTOCAD* (the $2,600 IBM package), it beats dedicated CAD systems in head-to-head comparisons. This program features the best user interface I've ever seen and sets a standard that will be hard for others to match. A competing CAD package was shown by Northern Designs. Their *MI:VADDS* was described as a full-featured three-dimensional computer-aided design and drafting package.

Passport/Musicware entered the ST market with their MIDI line. PCS showed off their *Cash Register Plus*. *Practical Solutions, creators of the Monitor Master* which allows you to switch between monochorme and color monitors (I wouldn't do without mine), brought two new products now in beta test. *Mouse Master!* externalizes your 1040 joystick connections and *VideoKey!* gives your ST composite output.

QMI showed off a couple of new products. *BB-ST* is a $49.95 BBS program which allows operation up to 9600 baud, is fully programmable, and allows remote operation. *ST-TALK 2.0*, which should be out in about six weeks, will sell for $29.95. It is a complete GEM program featuring auto-ARCing and de-ARCing, the ability to run programs while uploading or downloading, a custom screen font, which gives it a true 80-column display, and the ability to operate at speeds up to 9600 baud and a sophisitcated auto dialer.

Both QMI and MichTron displayed their versions of Mitsubishi's touch tablet which sells for $395. This tablet is a professional tablet measuring 17.5 by 11 inches with 250 lines-per-inch resolution (a Koala pad would fit in one square inch of this pad). I was impressed by the fact that it is invisible to TOS and thus could be used in place of the mouse without any special drivers.

Sierra-On-Line showed the Quest series (Kings I, II, III plus SPACE) and their new adult-oriented game, *Leisure Suit Larry*. Keep your eye out for their new *3D Helicopter Simulator* coming this fall. Softcode displayed accessories fot the ST. One item that caught my eye was a cleaning kit for your mouse. (If your mouse arrow isn't responding correctly to your mouse movements, take a look at the metal rollers the mouse ball rides on. Chances are they just need cleaning.)

The Supra 20 MB drive has become the standard for the ST. They are now shipping 20, 30, 60, and 250 MB (that's not a misprint!) drives. Coming this fall from Supra is a 2400-baud Hayes compatible modem for $180. (Hey, Atari, by the time your modem shows up, nobody will want it!)

Timeworks proudly showed the latest addition to their line, *Partner ST*, a very impressive set of accessories. It will be released in September for $69. Also due out soon from Timeworks is a desktop publishing package.

Word Perfect had their pre-release beta of *Word Perfect 4.1*. This fully functional version includes full GEM integration, footnoting, macros, column math, footnotes, mailmerge, outlining, spell checking, a thesarus, table of contents / index generation, multi-columning, undelete, and compatibility with the PC version. Sales of this product may very well show show other major manufacturers whether or not the ST is a viable market. The suggested list price is $395, but if the Amiga version is any indicator, retailers will be asking about $299.

And finally, Xanth was there with what has become an Atari trade show standard: *Kill-A-Happy Face*. This MIDI maze program, which allows up to 16 competitors to go at each other simultaneously on 16 different STs, will be available in September for $39. Imagine how interesting these tournaments will become when the players can get their own copy of the program and sharpening the hunting skills!

AVANT-GARDE'S pc-ditto

Finally, IBM Emulation on Your ST

Review by Mike Gibbons

pc-ditto: It Works!

A whole new adventure has opened up for the Atari ST user with the surprisingly functional new product, *pc-ditto* by Avant-Garde Systems. Unlike previous software attempts by other companies which were less than useless, this truly incredible software emulator actually works. If you want to explore the realm of MS-DOS or bring home PC work from the office, this product fulfills these needs at an affordable price.

The included instructions, although sparse, were all I needed to get *pc-ditto* up and running. It helped that I have an IBM-compatible computer and a lot of prior MS DOS experience. The novice MS-DOS user, however, must first obtain a copy of MS or PC DOS, preferably the 3.2 version on 3.5 inch disks. Next, of course, the novice will have to learn something about the MS DOS operating system. (If you are new to MS DOS, see Wm. Price on MS-DOS elsewhere in this issue.)

The current version of *pc-ditto*, 2.0, only runs on a color ST monitor. The exterior package reads that you need a color monitor, but inside it states that monochrome is supported, a bit confusing. The current version supports both IBM color and IBM monochrome programs, but only runs on a color ST system. Avant-Garde has promised that monochrome support is number one on the list of improvements in the next version due out this fall. The upgrade to the newer version will be free to registered 2.0 owners. They decided to release only the color version because the monochrome monitor had not been fully tested and they did not want to delay the release of the product another three to six months. Since I have a color monitor, I certainly am happy with their decision to release a working color version.

Do You Need pc-ditto?

If you want the software you use at home to be compatible with (IBM) software you use at the office, you need *pc-ditto*. Some current ST products can share data between the ST and IBM. For example, in the case of *Lotus 123*, the ST product *VIP Professional* can read and write Lotus files, although there is still the problem of moving data from one disk format to another. But most ST programs are not, of course, compatible with or available on MS DOS computers.

Some Atari fans may disdain the idea of running an "obsolete" operating system like MS DOS on their STs. However, without arguing the merits or demirts of the IBM and ST worlds, let's just assume that neither machine is better but instead, that you just want to use both. When I stepped up from my IBM XT to the 1040 ST, I bought Michtron's *DOS Shell* with the ST computer. I felt that since I was familiar with the command processor, I would like to continue using DOS. What was this little thing with a tail for anyway? Well, I later found that the mouse and GEM interface were as easy to use as the command processor and in some cases preferable. Quite a statement from a die-hard IBM user.

IBM Software on Your ST

Now that you have decided to buy *pc-ditto*, you will be pleasantly surprised by the software this product runs. If you already use MS DOS, then you already know how to use this product. I have tested over 50 software packages and most of them have run without any quirks. The only drawback I encountered is that of speed. The table below provides some benchmarks to allow you to make your own decisions as to whether or not this is an issue in your mind. As many of you did, I started out with an Atari 800 and a cassette recorder. Only after I purchased my first disk drive did I realize how slow the cassette had been. I propose that an Atari user who purchases this product, without having been spoiled by a Turbo PC or XT, will find the speed acceptable. In the case of game software, however, it is quite noticeable that the emulator is slower than an actual PC. Arcade software, for the most part, runs almost too slow to be acceptable. Rather large programs may also execute slowly, but again, that is a relative thing. I used the Norton Utilities SI test which is a computing processor comparison to the IBM PC. *pc-ditto* scored 0.3, a speed of about one third that of the IBM PC. I should mention another limitation of *pc-ditto*. It only displays four colors. These colors are preselected with a setup utility on the *pc-ditto* disk and I felt no need to change from the default colors.

In testing the software, I compared *pc-ditto* running on a 1040 ST, to an IBM-compatible lap top computer (KAYPRO 2000) with a 3.5 inch drive. When I first purchased the KAYPRO, I noticed the

drives seemed to read more slowly than their 5.25 inch counterparts. I really didn't mind since I also received 720K of usable space on the 3.5 inch disk. I tested *Lotus 123* version 1A and loaded a 180K spreadsheet file on the Atari 1040 ST running *pc-ditto*. It was over 1000 rows deep and 6 columns wide. The spreadsheet worked and loaded only 30 percent slower than on my lap top computer. I quickly became excited and started porting software from my IBM-compatible desktop to the IBM lap top via a null modem cable. In the process, of course, I moved the software from 5.25 inch disks to 3.5 inch disks. I was also running *pc-ditto* on my ST and testing different packages as quickly as I could get them into the 3.5 inch format.

Comparison of Execution Speeds under MS DOS
ATARI 1040 ST vs KAYPRO 2000
(All times in seconds)

	pc-ditto	KAYPRO
Compile a 743 line basic program with the Microsoft Quick Basic Compiler.....	100	18
Encrypt a file with The Confidant - A DES standard encryption utility.....	167	52
Turbo Pascal - Run Window, a scrolling graphics demo to the 50 Line mark.....	36	13
Procomm Terminal Software 1200 Baud Download (21031 Bytes).....	248	206

If this product is not to be used for arcade software, what is it used for? I would suggest business, programming and other applications software not available on the ST. For starters, I can't believe how well *Turbo Pascal* runs on *pc-ditto*. I also enjoyed how some of the editors and word processors worked. *Wordstar* version 3.31 was too slow, but it also runs slowly on an IBM. *Word Perfect* worked without a hitch, both version 3.0 and the newest 4.2 version. (It should be noted that Word Perfect Corporation will soon release a GEM-based Atari ST Version of their program.) The terminal software I tested acted fine and downloads went smoothly. I prefer *Procomm* a shareware product, but other commercial terminal packages such as *SmartCom II* and *Crosstalk* worked quite well. I created pie and bar charts with a Lotus compatible MS-DOS spreadsheet named *ASEASY*. This package loaded Lotus-created worksheets easily and executed LOTUS macros flawlessly. The graphics were as good as any IBM or compatible could have done. This program was downloaded from an IBM BBS where a wealth of other public domain software awaits a *pc-ditto* user. (Note: *Procomm* and *ASEASY* are both included in the new Current Notes PC Library introduced this month. Ed.)

Moving Software to a 3.5 Disk

If you have access to an IBM with a serial port and modem communications software, it is a relatively simple task to hook it to an ST directly to transfer software. Connect a null modem cable to your IBM or compatible and then to the ST modem port. You can take a standard RS232 cable and switch pins two and three on one of the ends of the cable to make a null modem cable. Alternatively, you can purchase a null modem cable from your dealer. Run any terminal software package on each machine and set them for a transfer rate of 9600 baud, 8 data bits, 1 stop bit and parity none. It won't do any good to go beyond 9600 baud on the IBM compatible because the serial port will not support any faster transfer rates. It is now a simple task to upload software from the compatible directly to the ST using your favorite protocol that is supported by both machines. The Atari ST can even run under GEM with a package like *ST-TERM* or *FLASH* and write directly to an ST disk. Remember this process didn't involve two modems, just a cable. Another method of transferring PC software is with a modem. Call any friend with an IBM compatible or even a PC DOS oriented BBS and just download the programs.

Under GEM, the ST can read from and write to MS DOS formatted disks. The reverse is not true and while running *pc-ditto* the computer will not be able to read a GEM-formatted diskette. For a year now I have been copying program source code from my ST to my MS DOS disks since they both have 3.5 inch drives. I have even exchanged source code between OSS *Personal Pascal* and Borland *Turbo Pascal* with almost no modifications. I simply put my 3.5 MS DOS disk in the ST and used it. As long as it had been formatted on the MS DOS lap top computer, it worked fine.

What about copy-protected software and the 5.25 inch format? Do you have to go out and buy a 5.25 disk for your ST? Since the new IBM line of computers are installed with 3.5 inch drives, most publishers are now producing software on the 3.5 inch format. They also are removing copy protection and hence removing another one of the problems. A 5.25 inch drive will cost you a couple of hundred dollars. Unless you have a specific need to have your data on 5.25 inch format, I suggest holding off buying a 5.25 inch drive. Why revert to the older, inferior disk drive technology? Besides, the new *Current*

(Continued on page 50)

AN INTERVIEW WITH BILL TEAL

Most Frequently Asked Questions About pc-ditto

[In preparing for a recent CompuServe online conference, Bill Teal, author of pc-ditto, compiled a list of answers to his most-often asked questions. Unfortunately, not many of the questions surfaced during that conference. However, I assured Bill that CN readers would certainly be interested in those answers. So, presented below, is a CN exclusive interview with Bill Teal. -- Joe Waters]

Where can I get pc-ditto and how much does it cost?

pc-ditto is sold thru Atari dealers. The suggested retail price is $89.95.

Why can't I buy pc-ditto through mail-order?

We sell thru dealers because most provide a better service and value than other market mechanisms, such as mail order or direct mail:

1. The consumer can try before buying. (Some dealers even go as far as letting the consumer try his own software).

2. Most dealers have used the product and can answer questions and offer advice.

3. Many dealers offer assistance with transfering files on 5.25-inch media to 3.5-inch disks, or even rent 5.25-inch drives for overnight use.

4. Some dealers are the source for the other items the consumer will need, such as the DOS, the disk drives, IBM applications software, and even supplies.

5. And, we have found that many dealers provide competitive prices, some to users groups, or as part of a bundled machine sale.

6. Finally, many dealers offer technical service after the sale, to help with any problems the consumer encounters. To bolster this service, Avant-Garde provides support services to dealers, to make their task easier.

What kind of support can dealers expect?

Primary support service to our dealers is free technical advice over the phone. We also produce a newsletter that covers information of interest to dealers. (This may seem like very little, but in the computer industry as a whole, technical support (also, known as maintenance) represents about 80 percent of the consulting practice hours today; and, it is the most expensive service to provide). This is a hidden service; one that the consumer doesn't even see. Yet, without it, many companies never succeed, because their dealers don't succeed. And, why should they? Without some incentives such as manufacturer's support, the cost of the product increases because they (the dealer) have to provide all the support. And, sometimes, with a product like ours, that is nearly impossible.

Also, we are working on newer brochures, and other marketing materials for the dealer. (Please remember, since we're just starting up, these things take time ... and Money).

And, of course, we have advertising in place which will be published this fall, targeted at the consumer. Concurrently, we have product reviews which should arrive at about the same time (if this works according to plan).

What's the Norton compatibility of pc-ditto?

The Norton SI (compatibility, as called by some) is 0.3. That means the processing speed of *pc-ditto*, according to Norton, is about 30 percent of an IBM PC. (.3 x 4.77 MHz = 1.43 MHz approximately).

Although, any yardstick for measurement is usually better than none, the SI is not strictly indicative of the actual performance of *pc-ditto* for all applications.

We measured *pc-ditto* effective speed using a wall clock. We broke applications into various categories, selected what we felt were the most popular applications to represent that category, ran each application several times to get an average, tested memory-intensive and disk I/O intensive speeds (when we could separate them), and summarized the results.

This measurement technique is known as throughput measurement. It measures the overall processing performed in a period of time. Although we could try to measure MIPS, effective MHz, additions per second, and so on, this was the best measurement suited for the general consumer. This was a

measurement which best reflected his perception of the speed of *pc-ditto*.

What this measurement says is that throughput depends on the application. A word processor may run just as quickly on *pc-ditto* as on a 25MHz 80386 IDS, such as *WordPerfect* and *pfs: Professional Write*. Reason: most of the time, the application is waiting on the user keyboard input. This is true of many applications. On the other hand, some applications which require significant processing before results are rendered, say a statistical analysis using mathematical optimization, will be much slower on *pc-ditto* than on even a stock IBM PC.

Therefore, the speed translates into usefulness of *pc-ditto*, or any "hardware processor"; it just depends on the application. For example, in our own case, we get many calls about using IBM games on *pc-ditto*. We always state that we do not feel that games work best on the product. Some seem to be fine, but others are very sluggish, and consequently, in our opinion, not useful. Most games require lots of processing and intensive graphics. We only have games on the product list, because many business users feel more confident about *pc-ditto* compatibility, if one of the defacto standards of compatibility, such as Microsoft's *Flight Simulator*, at least runs.

Are you finished now that pc-ditto is out?

Absolutely not! The first rule in commercial software development is to get it right. Then, make it faster. We're doing just that. We might have been able to sell you a much faster, but less reliable product. It would only get you to the crash point faster. But, that would be useless. We would rather gain your confidence in our product. Then, improve it; in all areas.

How do I attach a 5.25-inch drive to my ST?

Attaching a 5.25-inch drive to the Atari is a "toughy" question. We are not hardware engineers. What we do know is that the drives which connect to the ST are off-the-shelf IBM compatible drive mechanisms, available from almost any reliable source. The same goes for the drive power supply. The problem that arises most often is finding a cable to connect the drive to the ST. Generally, this is a 34-pin edge connector on one end, with a 15-pin DIN connector on the other. We don't build our own drives. Thus, we are not sure how to overcome this cable problem. We purchase our drives thru I.B. Computers, located in Portland, Oregan. They sell a half-height drive with cable, ready-to-go. To date, its the only one we've tested.

We tell anyone who asks, that if they already have another drive, then *pc-ditto* should work fine with it, as long as the ST can "talk" to it -- as long as the electrical connections are sound.

How do I get IBM programs for my ST?

Commercial IBM applications come on 5.25-inch disks. Today, many more are being provided on 3.5-inch media, as well. Some companies have a product upgrade policy, such as Ashton-Tate, whereupon, you return your master disk, or some other product registration, and they will send you a 3.5-inch version.

Also, applications can be simply copied from 5.25-inch media to 3.5-inch, as long as its not copy-protected. This means you must have use of a 5.25-inch drive on the ST, or use another computer with both 5.25-inch and 3.5-inch drives. (You can modem across the software between two computers, but this is messy, and recommended for the advanced users with all the tools (including a modem program on the Atari)).

I can't get my mouse to work. What's wrong?

Any product which requires the mouse, such as *AUTOCAD* and *PC Paintbrush*, will not currently work. Mouse support will be out this fall.

What is your upgrade policy?

The first upgrade is free to current owners of *pc-ditto*. What we will do for later updates, if you feel they will be necessary because we don't get this one right, is unknown. I do know that we are against selling bugs. If we believed consumers should buy bugs, we would have built some in, then put out specific add-on fixes, for a price, maybe even marketed them as new modules. That stinks.

We believe, instead, that a product should be somewhat like a car (NOTE: I didn't say exactly like a car, with the lemon scent). When you buy it, with whatever features it has, those features should work. Period. If they don't, then take it back to the service dept and make 'em fix it until it does. Those features may not be the best in the world, but whatever they are, they should work. (We also feel the buyer be aware, in any market...that's why we want you to support your local dealer; so, you can test *pc-ditto* before you buy).

In short, we correct bugs we know of with field patches. These patches are designed to get it working. They are usually sent to owners who contact us directly about a problem, to all dealers, and if possible, uploaded on national

boards, such as these (as long as our copyright is maintained). For example, we have a field patch being prepared right now for release in the next couple of weeks.

Updates, on the other hand, are enhancements. Not bug fixes. We think you should get it working first, then add features.

By the way, let us hear from you. One reason for the "free" part of the update, is to "entice" you to respond to us: Let us know what kind of enhancements that would make your product, *pc-ditto*, more useful to you. No matter how strange the request. You may find out that your "impossible" is indeed very possible. We can't guarantee that every idea can or will be implemented. Rather, we rank the requests by percentage requesting, maybe add a few of our own, and check the feasibility of the rest. If some idea is impossible to us, we'll also tell you, and why. Hopefully, this is fair. Its your money. We've built the cost of the update into the price. We'd like to hear from you.

Where can I get the MS-DOS operating system?

Where to get the MS-DOS is our most difficult question. First, stick with the DOS makers we recommend. Some DOS's have problems. They don't just fail on *pc-ditto*, but they fail on a stock PC XT as well. Second, check your dealer. He may have the DOS, or be able to supply one from a distributor.

What are your customer support policies?

Our customer support policies are:

1. You may call or write to us, if you have returned your registration card. (We will check our files, before providing any technical answers. If you have a general question, or just want to notify us of a bug or enhancement vote, we'll talk). This is primarily because of the piracy, even thought its not fool proof.

2. Current owners will receive a free update this fall. You need not call or write. Just send in your card, and the update will come automatically.

3. Bug fixes, via patch, will be released as they arise. Again, only registered users who have contacted us about the problem will receive notice. (Dealers and possibly national networks will also have the patches).

Your phone lines are ALWAYS busy. How can I get through?

Our phone lines are very busy. We apologize. We have installed more. Our hours are: Monday through Friday, 10:30 AM to 6:30 PM EST. Most of the calls come around 1 PM to 3 PM (when the West coast wakes up?). So, if you can avoid those hours, you will have more success.

What sort of Turbo or speed-up options are compatible with pc-ditto?

We are not familiar with most of the "Turbo" or speed up options. We have been told about disk caches and screen drivers, but we are concentrating on speeding up the underlying emulation process, rather than the superficial application mods that some of these perform (We do know that some of these things are quite effective, however, and are glad they exist. But, the market is too fast-changing for us to test all of them, as well as test the larger market-share items, as *Framework II 1.1*, etc.) We hope you understand.

That's one reason we support the national networks. These systems allow the word to be spread quickly concerning such utilities, rather than waiting on Avant-Garde to announce them.

pc-ditto works fine on a color monitor, but fails on mono. Is this a bug?

Atari monochrome monitor support will be out this fall. We did not release it sooner because it was not tested. When we talked to Atari in New York during a March show, they recommended going with the color monitor first because the sales of those monitors were about 80 percent of U.S. monitor sales. With limited time and resources, we had to choose between hard disk support and the mono monitor. We've even heard from reviewers of some big-name publications. One said we made the right call. Everyone in the U.S. screams "color,color,color." If we had gone the mono route first, most would say we couldn't do color. But, by doing color first, most think mono is easy. Oh well. Good or bad, the issue is moot.

ATARIFEST 1987

Coming

Saturday, October 24
Sunday, October 25

Fairfax High School

FAIRFAX, VIRGINIA

NOVATARI XL/XE LIBRARY

We are introducing 8 new (*) disks this month. Games disk No. 13 has 20 BASIC games from back issues of various computer magazines; they are fun to play and good examples of programing too. Telecommunications No. 5 is a former NPX(Novatari Program Exchange) offering CHAMELEON TERMINAL EMULATOR. The documentation on the back of the disk will help explain some of the more esoteric communications routines. Education disk No. 4 is CURRENT NOTES editor Joe Waters' contribution from the former NPX programs. Joe's WORD BUILDER 1.0 is an excellent example of BASIC programing and a good tool for vocabulary building with provision for user modification of the words and definitions. Music disk No. 7 has the AMS player program and 16 Oldies while Music disk No. 8 offers 18 Classics plus the player. Utility No. 10 is no longer the outdated membership list but Daisy-Dot NLQ that this ad is printed with using and Epson RX/80. Utility No. 18 is a powerful font and player/missile editor called TOUCH EDIT because uses the touch tablet or joystick. Demo No. 5 has the Desktop DOS for 8 bits and several graphic demos. We have been exchanging library disks with user groups around the country and welcome any disk librarians the exchange lists and disks with our library. Please write the Roy Brooks, PD libraian, 4020 Travis Pkwy., Annandale, Va. 22003.

Price for WAACE members and CURRENT NOTES subscribers is $3/disk plus $1 for postage and handling for every 3 disks. Otherwise, cost is a flat $5/disk (includes postage and handling). Send checks, payable to NOVATARI, to Alan Friedman, 5951 Heritage Square Drive, Burke, VA 22015. We thank Evan Brooks for many years of service as club librarian and mail order agent but please don't order disks from Evan because Alan Friedman has taken the mail order tasks.

GAME DISKS
1 TEXT ADVENTURES
2 GAMBLING
3 SIMULATIONS
4 MAZES
5 PARLOR GAMES
6 GRAPHICS
7 ACTION! Games
8 ARCADE LOOK-A- LIKES
9 TEXT ADVENTURES 2
10 TEXT ADVENTURES 3
11 SURF'S UP
12 SKI KING with slope editor
13*20 BASIC Games

TELECOMMUNICATIONS DISKS
1 850 INTERFACE
2 835/1030 MODEM
3 MPP MODEM
4A AMODEM 7.2
5*CHAMELEON TERMINAL EMULATOR
6 1030 EXPRESS and 850 EXPRESS

EDUCATION DISKS
1 MATHEMATICS
2 PRIMARY LANGUAGE
3 TEACHER'S TOOLBOX
4*WORD BUILDER 1.0

MUSIC DISKS
1 TV/MOVIE THEMES
2 ROCK
3 JAZZ
4 BASIC MUSIC PROGRAMS w/demos
5 AMS 12 Rock Songs
6 AMS 14 Movie/Video Themes
7*AMS 16 Oldies
8*AMS 18 Classics

LANGUAGE DISKS
1 Fig-Forth version1.1
2 Action! Games: source code for Games No. 7
3 Action! Graphic Demos
4 Action! Utility Programs
5 Action! Modules No. 1
6 Action! Modules No. 2
7 BASIC XL Reference Base
8 Action! Modules No. 3
9 Action! Telecom Kermit source code
10 Turbo Basic/Compiler

UTILITY DISKS
1 Miscellaneous Utilities
2 Printer Utilities
3 DOS 2.5
4 Directory and Label Printer
5 Graphics Trilogy
6 Copymate 130 and 4.3
7 Sector Copier
8 Translator
9 256k upgrade for 800XL
10*Daisy-Dot NLQ
11 DOS 2.6
12 MACHDOS 2.1
13 Print Shop Editor
14 Easy Find
15 Print Shop Icons 1
16 Textpro 1.1
17 Print Shop Icons 2
18*Touch Edit

DEMO DISKS
1 Animation Demos
2 Moviemaker "Clips"
3 Heavy Metal Art
4 Graphic Picture Show
5*Desktop DOS and Demos

ATARI SCUTTLEBITS

By Bob Kelly

A LOOK AT GENIE'S ROUNDTABLE

After an all too brief vacation, I am back at the typewriter.... oops, keyboard! It was an enjoyable reprieve, spent mostly in Canada. Of particular interest on the trip was James Bay where the first English settlers arrived at Moose Factory, Ontario during the 16th Century. The Canadian people, as always, were very hospitable (this is my fourth vacation in Canada). If you've never been, go while the exchange rate remains favorable. My only regret while in Canada was that Glen Brown from the Ottawa Atari users group visited Washington, D.C. I never met Glen in person although we talked numerous times over the telephone. I was informed Glen is an amateur magician of some acclaim and look forward to his next trip or rather performance in this area. He is so good that he even made a Mega ST appear while in town (not only Atari can create illusions).

Preparing for this column was difficult not only because of the vacation blues, but also the Atari market is rather uninteresting. No Mega ST has appeared in the U.S.A., no laser printer, no Atari IBM/PC compatible, and no 80-column cartridge nor 360K disk drive for the 8-bit enthusiasts. Atari has maintained in their public statements that the hardware will be coming any day (I hope before the holiday buying season). Atari's pronouncements and the unswerving loyalty of many users reminds me of a quote from Shelley:

> "Life may change, but it may fly not;
> Hope may vanish, but can die not;
> Truth be veiled, but still it burneth;
> Love repulsed, - but it returneth!"

GEnie's Atari ST-Roundtable

Over the past year or so, several individuals have said to me in one way or another, "Bob, learn while having fun, join one of the real time conferences (RTC) either on CompuServe or GEnie. There are conferences/forums for almost any interest a person may have." As you probably know, Atari is now directly associated with GEnie and runs the Atari 8 and 16 bit forums. If what I heard was true, it was time to stop doing research for this column the hard way - magazines, newspapers, and books. I downloaded several files of past ST Roundtables. Once printed, the few files amounted to hundreds of pages of text. I was momentarily dismayed, but doggedly determined to continue.

After reading the material, I had to ask myself whether this was an easy method of obtaining information? Further, were particularly insights gained which could help an individual user or supply more time sensitive material for this column.

In order to evaluate opinions I will present later, the reader must first be familiar with the dialogue, RTC text. A caveat, Atari recently attempted to improve both the quality and organization of the weekly ST RTC. Depending on individual likes, the change may be viewed as positive, away from total chaos, to negative, corporate propaganda. Let's begin by looking at some old dialogue from the ST Roundtable of May 27, 1987.

<TP> Is there a list of Magic Sac Public Domain software posted?
<G> Check with us at the end of June ok?
<DS> uploaded a test rev., tonight; we will see how it does. Probably more
<HH> 1989 right?
<<R> Why can't I de-arc ST_Index.ARC on one disk without getting a disk full message
<DS> fixes to put in before it's ready.
<GM> Thanks G, I will do that
<JK> F... what's the progress in splitting up the phone lines at Atari BBS?
<G> I was really hoping for the year 2000.
<DS> I don't think so. Current Notes probably has the best one right at the moment.
<D> Hi guy...
<DS> That you Billie joe?
<JH> Hi!
<MJ> Hi!
<SJ> R.... the file may be dearcing into a file that's too big for the disk, use a ramdisk an dearc from that/

After reading this short excerpt, are you confused? Imagine reading for hours pages of text structured in this form. In reality, this is a particularly good excerpt since two questions were answered in a short period (the general rule appeared to be one answer to a substantive question every five pages). Can you find the Q & A's? (Remember when you use to draw lines between the dots.)

Now, along comes Neil Harris for Atari. There is no doubt, reading the transcript is easier. The text is coherent, consistent, and surprisingly, information is readily available to the user. Again, a few representative examples of dialogue from the conference conducted on August 5, 1987.

<[Andy Eddy} KIDX>
Thanks, Neil. Two quick ones: Has the Mega pricing been set? And what effect will the new Tandy PC-comps have on the Atari PC strategy?

<NHARRIS>
Yes, we've set the retail pricing on the Mega ST computers ... the Mega ST2 will sell for $1699 with monochrome, $1899 with RGB; the Mega ST4 is $2399 with mono and $2599 with color. Please keep some things in mind regarding these prices:
1. they are suggested list.
2. we're improving dealer margins, so the numbers may seem.. a little high now.
3. These are the numbers today.

I really can't comment on the new Tandy systems until I know more about them.

<[Steve] STAPPLIC>
Two questions: Any info on the new ST resolutions and is the TI graphics co-pro. being considered for use in the ST. 2) Will Business Land carry the Mega as reported?

<NHARRIS>
Sorry Steve, nothing to announce at this time. And we're talking to several chains, but, again, we're not ready to announce any deals at this time.

<[Darin] D.L.ELEGAL>
Any news on the 32bit unit(s)? And will they run Unix or the like

<NHARRIS>
Come on folks, ask something we can answer!!! We're not really able to comment on unannounced systems...

<[Nevin] N.SHALIT>
Now that WordPerfect is almost out, is Atari aware of or helping any other big name and powerful SW developers for the ST... I love my HardWare but have to use my Magic Sac or PC Ditto when I want to use powerful software. I don't need a mega ST I need better software and am willing to pay... I know Atari is hardware but you should help for better software. Thanks.

<[Julius] J.OKLAMCAK - Atari>
Nevin, we are "working on it" <big grin>

Well, the difference is pretty obvious, isn't it? The old format was a sure prescription for developing a migraine. Now if you want information on Atari's current line of products, you will get answers both from the technical and market perspectives. If you want answers on future products and/or market strategies, don't bother to ask the question. If you want to talk about rumors, this is not the place. Quite frankly, this policy makes sense. Why should Atari discuss its corporate strategy for new products in a public forum?

Finally, some further clarification to questions posed implicitly or explicitly. Is this an easier way of obtaining information? For 95% of my needs the answer is ...no. Would I frequently participate in real time conferences? It is doubtful. Would I download the transcripts from the Atari RTC's in the future? Yes, but only under specific circumstances e.g. when new Atari products are introduced to the market and information needs are time constrained. Incidentally, I have assumed experienced Atari users most often read this column; new ST users might find more utility in the RTC's.

Nibble Bits

- Whats with ANALOG magazine? Have you received an issue at HOME since May? A few newsstands received an issue in early August. The front cover was labeled July/August. Guess it is a bimonthly publication or... is something else afoot?

- INDUSTRY WEEK in the July 27 issue has an excellent article on the growth in workstations. It is truly the wave of the future and big bucks will be spent.

- Computer hardware firms continue to perform well on the stock market. ATARI's success in the market is largely the result of the excellent reception its products have received in Europe (see: Paine Webber analysis published in early August for more details).

PLEASE REMEMBER TO TELL OUR

ADVERTISERS THAT YOU SAW THEIR

AD IN CURRENT NOTES!

ITS A SMALL WORLD

By Dave Small, (c) 1987

THE GREATEST HACKER OF ALL TIME

The question comes up from time to time. "Who's the greatest hacker ever?".

Well, there's a lot of different opinions on this. Some say Steve Wozniak of Apple II fame. Maybe Andy Hertzfeld of the Mac operating system. Richard Stallman, say others, of MIT. Yet at such times when I mention who I think the greatest hacker is, everyone agrees (provided they know of him), and there's no further argument.

So, let me introduce you to him, and his greatest hack. I'll warn you right up front that it's mind numbing. By the way, everything I'm going to tell you is true and verifiable down at your local library. Don't worry -- we're not heading off into a Shirley MacLaine UFO-land story. Just some classy electrical engineering...

The Scene: Colorado Springs, CO

Colorado Springs is in Southern Colorado, about 70 miles south of Denver. These days it is known as the home of several optical disk research corporations and of NORAD, the missile defense command under Cheyenne Mountain. (I have a personal interest in Colorado Springs; my wife Sandy grew up there.)

These events took place some time ago in Colorado Springs. A scientist had moved into town and set up a laboratory on Hill street, on the southern outskirts. The lab had a two hundred foot copper antenna sticking up out of it, looking something like a HAM radio enthusiast's antenna.

He moved in and started work. And strange electrical things happened near that lab. People would walk near the lab, and sparks would jump up from the ground to their feet, through the soles of their shoes. One boy took a screwdriver, held it near a fire hydrant, and drew a four inch electrical spark from the hydrant. Sometimes the grass around his lab would glow with an eerie blue corona, St. Elmo's Fire.

What they didn't know was this was small stuff. The man in the lab was merely tuning up his apparatus. He was getting ready to run it wide open in an experiment that ranks as among the greatest, and most spectacular, of all time.

One side effect of his experiment was the setting of the record for man-made lightning: some 42 meters in length (130 feet).

The Man: Nikola Tesla

His name was Nikola Tesla. He was an immigrant from what is now Yugoslavia; there's a museum of his works in Belgrade. He's a virtual unknown in the United States, despite his accomplishments.

I'm not sure why. Some people feel it's a dark plot, the same people who are into conspiracy theories. I feel it's more that Tesla, while a brilliant inventor, was also an awful businessman; he ended up going broke. Businessmen who go broke fade out of the public eye; we see this in the computer industry all the time. Edison, who wasn't near the inventor Tesla was, but who was a better businessman, is well remembered as is his General Electric.

Still, let me list a few of Tesla's works just so you'll understand how bright he was. He invented the AC motor and transformer. (Think of every motor in your house). He invented 3-phase electricity and popularized alternating current, the electrical distribution system used all over the world. He invented the Tesla Coil, which makes the high voltage that drives the picture tube in your computer's CRT. He is now credited with inventing modern radio as well; the Supreme Court overturned Marconi's patent in 1943 in favor of Tesla.

Tesla, in short, invented much of the equipment that gets power to your home every day from miles away, and many that use that power inside your home. His inventions made George Westinghouse (Westinghouse Corp.) a wealthy man.

Finally, the unit of magnetic flux in the metric system is the "tesla". Other units include the "faraday" and the "henry", so you'll understand this is an honor given to few. So, we're not talking about an unknown here, but rather a solid electrical engineer.

Tesla whipped through a number of inventions early in his life. He found himself increasingly interested in resonance, and in particular, electrical resonance. Tesla found out something fascinating. If you set an electrical circuit to resonating, it does strange things indeed.

Take for instance his Tesla Coil. This high frequency step-up transformer would kick out a few hundred thousand volts at radio frequencies. The voltage would come off the top of his coil as a "corona", or brush discharge. The little ones put out a six-inch spark; the big ones throw sparks many feet long. Yet Tesla could draw the sparks to his fingers without being hurt -- the high frequency of the electricity keeps it on the surface of the skin, and prevents the current from doing any harm.

Tesla got to thinking about resonance on a large scale. He'd already pioneered the electrical distribution system we use today, and that's not small thinking; when you think of Tesla, think big.

He thought, let's say I send an electrical charge into the ground. What happens to it? Well, the ground is an excellent conductor of electricity. Let me spend a moment on this so you understand, because topsoil doesn't seem very conductive to most.

The ground makes a wonderful sinkhole for electri- city. This is why you "ground" power tools; the third (round) pin in every AC outlet in your house is wired straight to, literally, the ground. Typically the handle of your power tool is hooked to ground; this way, if something shorts out in the tool and the handle gets electrified, the current rushes to ground instead of into you. The ground has long been used in this manner, as a conductor.

Tesla generates a powerful pulse of electricity, and drains it into the ground. Because the ground is conductive, it doesn't stop. Rather, it spreads out like a radio wave, travelling at the speed of light, 186,000 miles per second. And it keeps going, because it's a powerful wave; it doesn't peter out after a few miles.

It passes through the iron core of the earth with little trouble. After all, molten iron is very conductive. When the wave reaches the far side of the planet, it bounces back, like a wave in water bounces when it reaches an obstruction. Since it bounces, it makes a return trip; eventually it returns to the point of origin.

Now, this idea might seem wild. But it isn't science fiction. We bounced radar beams off the moon in the 1950's, and we mapped Venus by radar in the 1970's. Those planets are millions of 8000 miles away. The earth is a mere 3,000 miles in diameter; sending an electromagnetic wave through it is a piece of cake. We can sense earthquakes all the way across the planet by the vibrations they set up that travel all that distance. So, while at first thought it seems amazing, it's really pretty straightforward.

But, as I said, it's a typical example of how Tesla thought. And then he had one of his typically Tesla ideas. He thought, when the wave returns to me (about 1/30th of a second after he sends it in), it's going to be considerably weakened by the trip. Why doesn't he send in another charge at this point, to strengthen the wave? The two will combine, go out, and bounce again.

And then he'll reinforce it again, and again. The wave will build up in power. It's like pushing a swingset. You give a series of small pushes each time the swing goes out. And you build up a lot of power with a series of small pushes; ever tried to stop a swing when it's going full tilt? He wanted to find out the upper limit of resonance. And he was in for a surprise.

The Hack: The Tesla Coil

So Tesla moved into Colorado Springs, where one of his generators and electrical systems had been installed, and set up his lab. Why Colorado Springs? Well, his lab in New York had burned down, and he was depressed about that. And as fate would have it, a friend in Colorado Springs who directed the power company, Leonard Curtis, offered him free electricity. Who could resist that?

After setting up his lab, he tuned his gigantic Tesla coil through that year, trying to get it to resonate perfectly with the earth below. And the townspeople noticed those weird effects; Tesla was electrifying the ground beneath their feet on the return bounce of the wave.

Eventually he got it tuned, keeping things at low power. But in the spirit of a true hacker, just once he decided to run it wide open, just to see what would happen. Just what was the upper limit of the wave he would build up, bouncing back and forth in the planet below?

He had his Coil hooked to the ground below it, the 200-foot antenna above it, and getting as much electricity as he wanted right off the city power supply mains. Tesla went outside to watch (wearing three inch rubber soles for insulation) and had his assistant, Kolman Czito, turn the Coil on.

There was a buzz from rows of oil capacitors, and a roar from the spark gap as wrist-thick arcs jumped across it. Inside the lab the noise was deafening. But Tesla was outside, watching the antenna. Any surge that returned to the area would run up the antenna and jump off as lightning.

Off the top of the antenna shot a six foot lightning bolt; the bolt kept going in a steady arc, through, unlike a single lightning flash. And here Tesla watched carefully, for he wanted to see if the power would build up, if his wave theory would work.

Soon the lightning was twenty feet long, then fifty feet. The surges were growing more powerful. Eighty feet -- now thunder was following each lightning bolt. A hundred feet, a hundred twenty feet; the lightning shot upwards off the antenna. Thunder was booming around Tesla now (it was heard 22 miles away, in the town of Cripple Creek). The meadow Tesla was standing in was lit up with an electrical discharge very much like St. Elmo's fire, casting a blue glow. His theory had worked! There didn't seem to be an upper limit to the surges; he was creating the most powerful electrical surges ever created by man. That moment he set the record, which he still holds, for manmade lightning.

Then everything halted. The lightning discharges stopped, the thunder quit. He ran in, found the power company had turned off his power feed. He called them, shouted at them -- they were interrupting his experiment! The foreman replied that Tesla had just overloaded the generator *and set it on fire*, his lads were busy putting out the fire in the windings, and it would be a cold day in hell before Tesla got any more free power from the Colorado Springs power company! All the lights in Colorado Springs had gone out.

And that, readers, is to me the greatest hack in history. I've seen some amazing hacks. The 8-bit Atari OS. The Mac OS. The phone company computers -- well, lots of computers. But I've never seen anyone set the world's lightning record and shut off the power to an entire town, "just to see what would happen".

For a few moments, there in Colorado Springs, he achieved something never before done. He had used the entire planet as a conductor, and sent a pulse through it. In that one moment in the summer of 1899, he made electrical history. That's right, in 1899 -- darn near a hundred years ago.

Well, you may say to yourself, that's a nice story, and I'm sure George Lucas could make a hell of a movie about it, special effects and all. But it's not relevant today.

Or isn't it? Hang onto your hat. Next month: The Strategic Defense Initiative and the Tesla Coil.

PIECES OF EIGHT

By Len Poggiali

ATARI JUNKIE

[Each month, this column will contain anecdotes, tips, reviews, and such focusing on some day-to-day aspect of Atari 8-bit ownership. The articles will stress the "human interest" side of 8-bit computing. I do not pretend to be a programmer, nor am I an electronics expert. Rather, I am a husband and father, an educator, a writer, and avid game player, and a committed Atari enthusiast, and it is from this perspectives that this column will be written. By way of introduction, I offer the following.]

I have a confession to make. Actually I have a number of confessions to make. The first is that I am an Atari 8-bit junkie. Although I am a forty-year-old teacher/administrator and "should know better", much of my computer time is not spent in making out exams, creating lesson plans, or writing pithy articles for some indigestible educational journal. Rather, at least fifty percent of my computer hours are spent playing games, writing hopelessly trivial (hopefully entertaining and informative) articles for Atari-specific publications, running utility programs I don't, nor ever will, understand, looking for bugs in each of my three word processors, and testing out every piece of software that comes my way, regardless of its function.

When I am not in front of my screen, my nose is closely pressed against the pages of one of those Atari-specific magazines, instead of making headway on reading the complete GREAT BOOKS which I promised myself I would someday consume. If I ever decide to work on my doctorate in English literature, I doubt my mentor will accept a comparison/contrast paper on the various merits and demerits of ANALOG, ANTIC, ATARI EXPLORER, and CURRENT NOTES as a valid dissertation topic. Oh well, who wants a Ph.D. anyway?

Away from my 800XL and my plethora of back issues, I am a staunch Atari 8-bit advocate. Whenever possible I will swing any conversation around to the subject of computers so that I can inject some pro-Atari statement into it. "My Atari computer, disk drive, tape recorder, and at least sixty pieces of software cost me less than the price of an Apple IIE with nothing but a plug, and the sound and graphics in my 800 XL put Apple and IBM to shame." This and other such statements have not won many Atari converts over to the cause, but they have lost me a few friends, thereby freeing up more of my time for computer usage.

My love affair with Atari began in 1983, long after many other disciples had had time to become firmly entrenched 800 devotees. Although two more years would pass before I would buy my first Atari 8-bit, in '83 I became the owner of a 2600 game machine. Ostensibly purchased for my children, the 2600 provided me with many hours of enjoyment during the bleak Syracuse, New York winters. There was no game I wouldn't play, regardless of whether the graphics were blocky, the story line absurd, or the play mechanics beyond the limits of my ageing reflexes.

As a child I had loved Flash Gordon movies, penny arcades, and games of all types. Atari apparently had produced something which appealed to all three of those long-forgotten interests in me, and now as a man I was able to take renewed interest and pleasure in them.

Like any other "kid", some of the initial thrill of seeing cartoon characters climbing ladders, triangles of color firing flashes of light at space rocks, and wedge-mouthed cuties gobbling up dots wore off in time. Nevertheless, I always will have a very soft spot in my heart for the company that made it possible for me to experience what it is like to fly a space shuttle, to survive twenty minutes in PITFALL, and to see my children laugh and learn with BIG BIRD'S EGG CATCH.

After "outgrowing" the 2600 I purchased an 800XL so that I would have a machine on which to do my writing and to play more sophisticated games which the 4K memory of the 2600 couldn't support. "More sophisticated" at first meant climbing games with more screens (LODERUNNER, JUMPMAN and such); then adventure games of the APSHAI ilk; later text and text/graphic programs; and now military, sports, and financial simulations, and various construction sets.

I've begun to realize recently that my Atari computer took up where my 2600 left off in affording me opportunities to find gaming outlets for other childhood, teenage, and adult interests of mine. Military simulations, for instance, appeal to the Civil War buff in me; text adventures often remind me of the TREASURE ISLANDS and TOM SWIFTS I read as a boy.

In the non-gaming world, Atari has helped me to explore the realms of the much-feared Dos 3.0, the inscrutable SYN-FILE data base, and the enigmatic FIRST XLENT WORD PROCESSOR, and to emerge relatively unscathed. In short, Atari machines have made the "total experience" possible. It is no wonder then that I am and hope to remain an Atari junkie.

TIPS 'N' TRAPS

By Jim Stevenson Jr.

Q&A FOR ADVENTURERS

Thanks to Sam Wright, the SysOp of Merlin's Litterbox, and "The Necromancer", some of the unanswered questions from the June issue of *Current Notes* have finally been answered this month. Have problems? Call these numbers:

(modem) Electronic Age=====> (703) 620-0851
(") Merlin's Litterbox=> (703) 250-7303
(") ARMUDIC=========> (703) 569-8305
(voice) me (Jim)=========> (703) 378-4093

Bureaucracy

Q. How do you get in the castle 3 doors down from you?

-"Max Quordlepleen

A. Notice the voice on the intercom is awaiting your response to the password? Since you don't know it, perhaps someone else does...

-Sam Wright

Q. How do you get past the matron with the elephant gun?

-"Max Quordlepleen"

A. You can't, not to my knowledge. However, you CAN distract her...

-Sam Wright

Q. How do you get some cash?

-"Max Quordlepleen"

A. Since the mailman delivered all the mail to the wrong houses, it'd be safe to assume that he delivered your $75 money order to a wrong house, too.

-Sam Wright

Q. Where's the terminal?

-"Max Quordlepleen"

A. You can either find the terminal by trial and error or by the special pattern they have. You'll notice it as you walk east and west.

-Sam Wright

Q. Where's the white courtesy phone?

-"Max Quordlepleen"

A. Ignore the white courtesy phone. It's there for comedic purposes. "Would anyone who knows where the white courtesy phone is please pick it up?" Or something like that.

-Sam Wright

Q. Did you get to the terminal by destroying the Gush-o-Slush (R) Spam-for-the-Ears (TM) speaker? Also, how do you get your address book back?

-"Max Quordlepleen"

A. Yes, I destroyed the speaker. I don't know about recovering the address book. It seems lost forever. But try dialing your house (that's the only number that stays the same - if you noticed, the numbers changed whenever you RESTOREd a game) on the airplane.

-Sam Wright

Hollywood Hijinx

Q. Does anyone know how to get the ladder off the ledge? It refuses to let me PUT the ladder against the cliff.. LEAN it... everything. I'm pretty sure I need the ladder to cross the bridge.

-"Jack Flack"

A. You don't need the ladder to cross the bridge. All you need is what's in the house...explore it some more.

-Sam Wright

Q. Does anyone know how to get around in Hollywood Hijinx? I would really like to know more about it. The farthest I've ever gone was to the beach below the cannon enplacement. Any help would be appreciated.

-"Zor Prime"

A. At the beach, try swimming. How do you get around? Try N,S,E,W,NE,NW,SE,SW,U, & D.

-Sam Wright

Leather Godesses of Phobos

Q. I need a hint to the riddle the Sultaness gives you.

-Bill Mehojah

A. "Riddle"?

-Sam Wright

Q. Anyone know how to get the headlight from the Ford car? I can't figure out how to get the headlight from the bedroom.

-Del Whetter

A. To get the headlight, you have to have the sheet, rip it, and make a rope out of it. Then tell Trent to go get the headlight.

-"The Necromancer"

Cutthroats

Q. So far, I have 230 out of about a possible 250 points. How do I not get killed when I come up from getting the treasure at the end?

-"The Necromancer"

Asylum

Q. What do you tell to the Hypochondriac?

-Craig Waive

A. You dont tell the Hypochondriac anything. You give her the stethoscope and while she is listening to her heart you try to fight her, or kill her, or hit her or something, and she will drop some pills. That is as far as I have gotten.

-Bill Mehojah

Transyvania

Q. How do I get the girl out of the statue after I get into the cave? Can I ride the broom anywhere useful?

-"Sci-Fi"

A. To get the girl out of the statue, you will need something you will find in Dracula's Castle. It's in the silver coffer. I'll let you figure out what you need to get it out. The broom is only for sightseeing. Sort of a side-trip. It cant be used for anything.

-Bill Mehojah

Pawn

Q. I got the potion, and killed Kronos. How do I get his soul to the devil? Am I supposed to kill him? Maybe I should blackmail him?

-M.C. Fresh

A. To get Kronos's soul to the devil, you have to use the arasol can.

-"The Necromancer"

Borrowed Time

Q. I have the briefcase with the money and papers, but I can't escape from the thugs without dying!

-Diallo Evans

A. Go past the pile of trash, hide and give the bone to the dog.

-"The Necromancer"

Trinity

Q. I can control the sun and all, and I've gone to the various other "worlds", but I can't seem to get anywhere in them. I got the stuff from the Underground, but that's about it. I can't find the milk or the lizard either to put in the cauldron.

-"Degas"

A. Be sure to explore all of the mushrooms, and don't leave until you've accomplished something (namely, gotten something). You'll find what you need and more in the mushrooms.

-Sam Wright

Phantasie

Q. What are on scrolls? Normal spells?

-Jan Meisler

Q. How do you get to the magical pool that is in the water? I can't figure it out. Also, how do you ressurect someone? When I cast the spell it doesn't really do anything.

-Jan Meisler

Q. Where are rings G & H and where is the wand? Also, how do I get into the dungeon by the bay?

-Terry Munson

Hitchhiker's Guide to the Galaxy

Q. How do I get the Babblefish out of the machine?

-K. Seckinger

Starcross

Q. How do I get the pink rod from the alien's hand?

-Keneth Wise

Wizard's Crown

Q. I'm (I guess you can say) 3/4 finished. I'm in the palace on the second floor. My party is stuck there and keeps getting their butts kicked by the demons in the wizard's bed chamber. Is anyone past or up to this point of the game?

-Craig Waive

Lapis Philosophorum

Q. I have found the key, flowers, bird's nest, put the pig in the stable, and found a number in a drawer. Now where do I go, and do I need to do something to the bird's nest, or leave it alone and just take the feathers?

-"Ekim"

AUTODUEL

A Mixed Bag

Review by John Godbey

According to the June *Current Notes*, *Autoduel* is one of the best selling Atari XL/XE programs. I bought a copy at a local store for $39.99.

So what kind of games are Atari owners buying these days? If *Autoduel* is representative, the ones they are buying today have some unfortunate similarities with those they were buying in the earliest days of the Atari. In those days, many Atari games were mere translations of Apple programs. Little or no effort was made to adapt the game to the Atari by using the Atari's strengths. There were three sure marks of these translations: the instruction manuals told how to use the Apple computer, not the Atari; the graphics were poor; and the sound was pathetic. Well, the *Autoduel* manual contains numerous references to Apple computers and Apple controls, and no references to Atari computers. *Autoduel*'s graphics are quite ordinary. And its sound is a series of pings and pops -- the familiar sounds of early Apple translations. (One of the most amusing things about the game is that there is a control to turn the sound off. For large parts of the game there is absolutely no difference between having the sound off and having it on.)

Included with the program is a "Player Reference Card" which is supposed to give the "Atari Version" of the game controls, etc. It doesn't. For example, it says that to duplicate one of the program disks, one should use the "D" command in DOS. As we all know, in Atari DOS the "D" command DELETES.

Autoduel advertises itself as "A real-time strategy role-playing game." The game box contains a 32-page manual, a four-page "Player Reference Card," a large map of the Northeast Sector of the United States, and two disks. The game uses three disk sides, and even with two drives it requires some disk swapping or flipping. NOTE: *Autoduel* requires 64k, so it will not work on the old Ataris.

When you begin *Autoduel*, you are a driver with a little money, no car, and an unknown personality. You choose a combination of characteristics for your driver, and try to garner enough additional money to buy and outfit (with various kinds of guns, armor, and ammunition) a car. The object is to produce a car that is powerful enough and fast enough to duel other cars either in an arena or on the open road between towns.

You can get money by borrowing a car and entering "Amateur Night" at the arena or by performing courier tasks for the "American Autoduel Association" (AADA). As you win Autoduel contests or complete tasks for the AADA, your driving skill, marksmanship skill, mechanic skill and prestige increase. This, in turn, increases your chances of being successful in combat, and of receiving large paying tasks from the AADA. As your money increases you can buy additional guns, ammunition, and armor for your car, or even another car.

The strategic part of the game is to figure out the proper way to spend your money in order to get a car with the most bang for your bucks, and to determine which arena events or courier tasks you can take on with a decent chance of survival, given your car and skills. Once you enter an arena event or set out on the road between two towns the game is more arcade like than strategic: using the joystick (and occasionally the keyboard) you engage other vehicles in combat.

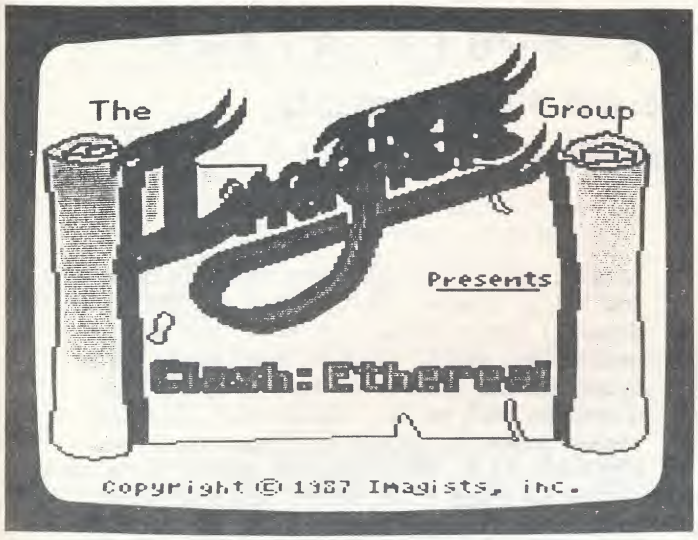
The actual combat is well done. The joystick gives you good control over the car, and by pressing keys 0-9 you can switch to any of ten different guns. Depending upon the nature of the combat, your opponents range from easy prey to impossible to destroy (at least for me).

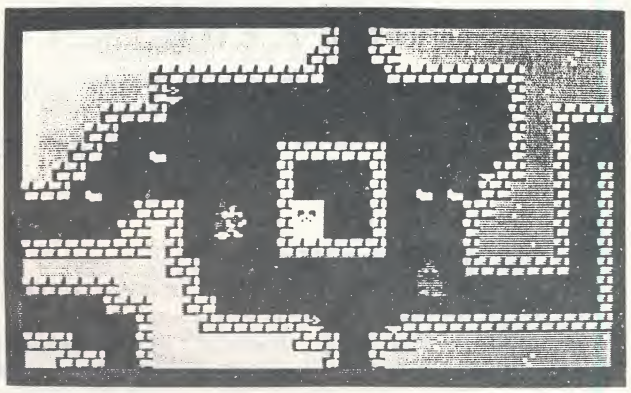
This brief summary doesn't do justice to the complexity of the game. For example, there are over a dozen different cities you can drive between and visit. Each has a different layout with different stores. In addition to getting money by performing courier tasks and autodueling, you can gamble in a casino, or sell items you own. There are bars where you can buy drinks and listen for rumors, and truck stops where you can spend the night or buy body armor. Finally, the computer keeps track of time as you play. The game starts on January 1, 2030. Some stores are open 24 hours a day; some are not. Since some activities are time sensitive, careful planning is sometimes required.

(Continued on page 29)

NEW! From The IMAGISTS Group!

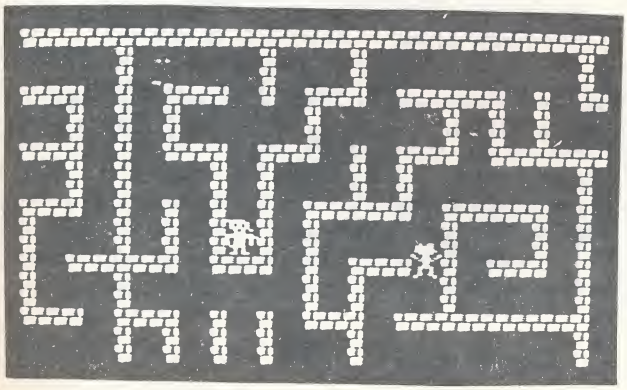
An Action-Adventure for 48K, ATARI 8-bits.





Actual CLASH: ETHEREAL screens.

You were the epitome of the word "loser". Your sole source of fulfillment came from advising the locals. Advice that was almost always correct, except when it came to yourself. It seemed as if nothing ever worked out for you. Then, one day, a small boy, with jet-black hair, sought your advice. In return, he gave you a gift; a magic stone. It would show you the road to riches and power. Only, there was one small problem with the stone - it was pure evil. Every time it's powers were invoked the Devil's claim on your soul increased. Years of use passed before the stone's true origin was discovered. Determined he should never again use the stone on unwittig prey, you destroyed it by throwing it into an active volcano. Then, you decided to beat him at his own game. So, giving up everything, you wandered the continent helping those in need, never asking for more compensation than food and shelter. This infuriated the Devil because each good deed reduced his claim on your soul so, he made a plan too. The next town you stopped in was your last. The people were friendly enough, until things started going wrong only when you were nearby. The townspeople decided to make you their scape-goat and while being run out of town you were accidentally killed by a blow to the head. His victory seemed secured until God decided to step in and give you a chance at redemption. After all, Satan had cheated you twice for your soul. It was decided that a borderland would be constructed by the Devil and thirteen riddles placed inside. A challenge was then made; if you could solve the riddles, confront, and banish Satan, your slate would be cleared, voiding any evil on your soul. However, should you expire in this land, he would command your soul's energies forever. In order to enshure failure Satan has filled this borderland with monsters, traps, tricks, secret portals, mazes, and smaller riddles that need to be solved to help conquer the main thirteen. Also, the main thirteen are difficult and varying enough to give him plenty of time to reek havoc with the extra power the evil part of your soul gives him. Can you beat him in the highest stakes challenge of your existence?...Do you have a choice!? Play CLASH: ETHEREAL and find out just what kind of adventure stuff you're really made of.....Come on, pick up the gauntlet today!....(He awaits you with open arms!)



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To: THE IMAGISTS GROUP
Box 1428
Fairfax, VA 22030

C.O.D.'s also accepted. Call (703)-764-0835 for C.O.D.s or more information on "CLASH: ETHEREAL". Our customer assistance line will be open Mon-Fri (9 am-12 pm). Please allow 2 to 4 weeks for delivery. Price uncludes tax and delivery (except on C.O.D.s).

INDEXING ON THE 8-BIT ATARI

A Tutorial on the NOTE and POINT Commands

By John Mackie

The Atari 800XL is a very fine computer but its limited memory precludes holding a large database in RAM. A large database can be accessed by the 800XL, however, if the records are indexed and only the index is stored in RAM. This article will illustrate how this can be done.

Atari BASIC has two commands, NOTE and POINT, which can be used to create and utilize an index. The NOTE command records the disk sector and byte address of the record that will be read or written next. Correspondingly, the POINT command directs the drive to a specific sector and byte address on the disk. If the starting sector and byte address of each record in the database is NOTEd and this information is included in an array, the array can be searched for a particular record and the disk drive commanded to POINT to the sector and byte address of the chosen record.

For purposes of this article let us assume that we already have an address database containing 600 records, each record (T$) of which is set up as follows:

```
Name:      T$(1-25)
Address:   T$(26,50)
City:      T$(51,65)
State:     T$(66,67)
Zip Code:  T$(68,72)
Blanks:    T$(73,100)
```

(Note: I find it useful to make my initial strings a little longer than necessary in order to allow for the later inclusion of additional fields.) In this example each record is 100 bytes long. Name, the field on which the index will be established, is contained in the substring T$(1,25).

Since the index field contains alphanumeric data and Atari BASIC does not support string arrays, we will have to set up a pseudo string array taking advantage of Atari BASIC's ability to support very long strings. To do this we first create a temporary string variable (REF$) to hold a single index reference. REF$ must include 25 bytes for the name and sufficient bytes for the values of the sector and byte address. The sector value is always a number between 4 and 707 which can be converted into two hexadecimal digits. The byte value is between 0 and 127 in single density (or 0 and 255 in double density) which can be converted into one hexadecimal digit. Thus we must allow three bytes for the address of each record and so dimension REF$ to 28. INDEX$ will hold the entire index and should be dimensioned to LEN(REF$) (i.e. 28) times the number of records in the database (i.e. 600). The following program will create the index using the CHR$ function to convert the sector and byte values into atasci characters which can then be inserted into REF$:

```
10 DIM INDEX$(16800),T$(100),REF$(28)
30 INDEX$="":REF$=""
40 OPEN #1,4,0,"D:MYFILE.DTA":TRAP 120 :REM
 substitute the name of your data file
50 NOTE #1,SECTOR,BYTE
60 INPUT #1;T$
70 REF$(1,25)=T$(1,25)
80 H=INT(SECTOR/256):REF$(26,26)=CHR$(H)
85 REF$(27,27)=CHR$(SECTOR-H*256)
90 REF$(28,28)=CHR$(BYTE)
100 GOTO 50
120 CLOSE #1:NUM=LEN(INDEX$)/28
```

The following program lines will search the index for an individual record:

```
12 DIM R$(25)
200 ? "NAME TO BE SEARCHED": INPUT R$
210 FOR P= 1 TO NUM
220 REF$=INDEX$(P*28-27,P*28)
230 IF REF$(1,25)=R$ THEN POP:GOTO 260
240 NEXT P
250 ?"NO RECORD FOUND": FOR I=1 TO 250:NEXT
 I: GOTO 200
260 B$=REF$(26,26):SECTOR=ASC(B$)*256
263 B$=REF$(27,27):SECTOR=SECTOR+ASC(B$)
265 B$=REF$(28,28): BYTE=ASC(B$)
270 OPEN #1,12,0,"D:MYFILE.DTA"
280 POINT #1,SECTOR,BYTE
290 INPUT #1;T$
```

The record can now be read, changed, etc. and then rewritten to disk with the following lines:

```
400 POINT #1,SECTOR,BYTE
410 PRINT #1;T$
420 CLOSE #1
```

In order to sort the records by name just sort the index. The sorted records can then be read by the following program lines:

```
500 OPEN #1,4,0,"D:MYFILE.DTA"
510 FOR P=1 TO LEN(INDEX$) STEP 28: REF$=IN
DEX$(P,P+27)
520 B$=REF$(26,26):SECTOR=ASC(B$)*256
525 B$=REF$(27,27):SECTOR=SECTOR+ASC(B$)
528 B$=REF$(28,28):BYTE=ASC(B$)
530 POINT #1,SECTOR,BYTE
540 INPUT #1:T$
550 REM do something with the record
560 NEXT P
570 CLOSE #1
```

Finally, if your database is on more than one disk drive, add another byte to REF$ to indicate which drive the record is on. The following lines show one way this might be accomplished:

```
10 DIM INDEX$(17400),T$(100),REF$(29),A$(1)
30 INDEX$="":REF$=""
35 IF N=2 THEN OPEN #1,4,0,"D2:MYFILE.DTA:
TRAP 120:GOTO 50
40 OPEN #1,4,0,"D:MYFILE.DTA":TRAP 120: REM
 substitute the name of your data file
50 NOTE #1,SECTOR,BYTE
60 INPUT #1;T$
70 REF$(1,25)=T$(1,25)
80 H=INT(SECTOR/256):REF$(26,26)=CHR$(H)
85 REF$(27,27)=CHR$(SECTOR-H*256)
90 REF$(28,28)=CHR$(BYTE)
95 REF$(29,29)="2":IF N=2 THEN REF$(29,29)=
"3"
100 GOTO 50
120 CLOSE #1:NUM=LEN(INDEX$)/29: IF N=2 THE
N go someplace
130 ? "Second address file on drive two";:I
NPUT A$
140 IF A$="Y" OR A$="y" Then N=2: GOTO 35
```

The drive number contained in REF$(29,29) can be converted back to a numeric value by using the VAL function which returns the numeric value of a string. The following lines illustrate how the search routine could be modified for searching multiple drives:

```
190 DIM R$(25)
200 ? "NAME TO BE SEARCHED": INPUT R$
210 FOR P= 1 TO NUM
220 REF$=INDEX$(P*29-28,P*29)
230 IF REF$(1,25)=R$ THEN POP:GOTO 260
240 NEXT P
250 ?"NO RECORD FOUND": FOR I=1 TO 250: NEX
T I: GOTO 200
260 B$=REF$(26,26):SECTOR=ASC(B$)*256
263 B$=REF$(27,27):SECTOR=SECTOR+ASC(B$)
265 B$=REF$(28,28): BYTE=ASC(B$)
268 G=VAL(REF$(29,29):IF G=3 THEN OPEN #G,1
2,0,"D2:MYFILE.DTA": GOTO 280
270 OPEN #G,12,0,"D:MYFILE.DTA"
280 POINT #G, SECTOR,BYTE
290 INPUT #G;T$
300 REM do something with the record
400 POINT #G,SECTOR,BYTE
410 PRINT #G;T$
420 CLOSE #G
```

Similar instructions can be added to the routine to read all the records.

If the index were based on a numeric data field, either a numeric array or a pseudo string array could be used. The latter may prove to be more memory efficient, however. Each element in a numeric array costs 8 bytes whereas each character in a string costs only one byte. Thus the sector and byte values for one record would cost 16 bytes if stored in a numeric array but only 3 bytes if stored in a pseudo string array. For an index based on social security number, for example, a pseudo string array would require 12 bytes per record (9+2+1) whereas a numeric array would require 24 (8+8+8) bytes per record.

* * * * * * * * * * * *

Autoduel (Continued from page 26)

But it is in building and arming your car that you are offered the greatest number of choices. There are seven different vehicle types available. For each of these, a variety of suspensions, tires, and motors are available. There are 12 different guns to choose among, and they can be mounted on the front, back, or sides of your vehicle, and there are different levels of armor available for all sides. It would take a lot of hours of play to investigate all of the available possibilities in this game.

Only one driver can play at a time, but games can be stopped at any time and the driver saved to another disk allowing for other players and other games.

Once I had played this game enough to master the controls and the rudiments of a good strategy, I found it quite addictive. The choices you make seem to make a difference in the play of the game. The strategic part of the game is rich in detail, and the arcade part fast and well done. To me, these make up for the ordinary graphics and poor sound. But at $39.99 you might want to carefully consider this purchase.

ATARI'S SMALL MIRACLES

By Mark A. Brown

READER REQUESTS

Welcome back to Atari's Small miracles, the column of short programs that you, yes YOU, can type in and complete in your lifetime! Hopefully this month's programs will teach you a little, occupy some of your time, and otherwise fill up space in your dull, dreary lives.

There is no real theme this month, just an answer to frequent reader requests. "Frequent" means two or more people have asked for it. So without further introduction, here we go.

BARRIERS

Some people have requested programs that are fun, like the graphic demos, but that you actually participate in, like some of the other programs. This means games, and they don't want to say it outright because they know that they are difficult programs to work with, requiring ingenuity, patience, and a lot of time and frustration in the programming. So I yelled at myself for even thinking about asking myself to write one, sat down at my computer, and wrote BARRIERS. The rules are simple: you are the moving ball; you try to get the diamonds that are standing still, 18 of them; you can alter the course of the ball by pressing the "/" key, which will put a barrier of that shape in front of the ball, altering its course accordingly; you try to do so with as few barriers as possible. That's it! The final score is a ratio of barriers to diamonds caught. If your score is greater then three, you need LOTS of practice; between two and three you should get no more then once or twice when you first play; between one and two should be a consistantly achievable score; if you get less then one (a theorhetically possible score) you're doing incredibly well. Enjoy it!

DATAENTR

Somebody recently accused me of going back on my word; the very first column of Atari's Small Miracles contained a phrase that (in effect) said I would never throw eye-straining hex data listings your way that would drive you nuts. I lied. So the least I could do would be to give you a little help in entering those programs. So here I present DATAENTR, a program that saves you a little typing by automatically putting in the line numbers and the DATA statement for you, letting you just type the data continuously.

Type in and RUN the program, telling it the beginning line number, increment, and final line number of the data. Thereafter you can simply type in the data (either hex or decimal), pressing space or comma to put in a comma, RETURN to enter the line. The program will not let you press any other keys, banning the bane of all mass typists, the clear screen key. You can edit the line if you press the back space key, but thats it!

You can quit any time just by hitting BREAK and saving the whole program, reRUNing it when you load it up again.

TFSVLD

The cryptic name of the program above stand for "Tiny Font SaVe & LoaD". A few issues back I provided a font editor that let you edit the characters of the Atari internal character set, making your alphabet greek, russian, a series of spaceships, or whatever. The program was rather powerful, but because it had to fit in less then ten lines the ability to load and save the fonts was left out.

Well, the following lines of code added to TinyFont will add the appropriate commands to load and save your masterpiece fonts to disk. Pressing the control plus a letter of the alphabet will save the font under that letter (actually, TINYFONT.NOX, where the last character, the X, is the letter you type in). This lets you save up to 26 fonts on a disk. To re-load your font, just press the same letter, but without the control key. Its a somewhat crude human interface, but it adds very few lines to the program (only four) and it maintains the integrity of the original program, both good practices to follow when expanding a program.

So here is both the original TINYFONT and its expansion, TFSVLD!

BARRIERS

```
10 CLOSE #6:OPEN #6,12,0,"S":POKE 752,
1:POKE 710,2:FOR Y=1 TO 22:POSITION 1,
Y:? CHR$(160);:POSITION 38,23-Y
20 ? CHR$(160);:NEXT Y:FOR X=1 TO 37:P
OSITION 38-X,1:? CHR$(160);:POSITION X
,22:? CHR$(160);:NEXT X:FOR Y=3 TO 20
30 POSITION INT(33*RND(0)+4),Y:? CHR$(
96):NEXT Y:X=2:Y=X:DX=1:DY=0:C=0:U=0:F
OR A=1 TO 256 STEP 0:LOCATE X,Y,Z
40 POSITION X,Y:? CHR$(20):IF PEEK(764
)<>255 THEN POKE 764,255:IF Z=32 THEN
Z=6:U=U+1:POSITION 1,23:? "Used:";U;
50 IF Z=6 THEN A=DX:DX=-DY:DY=-A
60 IF Z=160 THEN DX=-DX:DY=-DY
70 IF Z=96 THEN C=C+1:POSITION 10,23:?
 "Caught:";C;" ";:Z=32
80 POSITION X,Y:? CHR$(Z);:X=X+DX:Y=Y+
DY:IF C<18 THEN NEXT A
90 POSITION 21,23:? "Score:";:DIM N$(3
):N$=STR$(U/C):? N$;:FOR A=1 TO 2 STEP
0:NEXT A
```

DATAENTR

```
0 GRAPHICS 0:? "Starting line:";:INPUT
 B:? "Increment by:";:INPUT I:? "Last
line number:";:INPUT E
1 OPEN #1,4,0,"K":FOR L=B TO E STEP I:
GRAPHICS 0:POKE 842,12:? :? :? :? :? :
? L;" DATA ";
2 POKE 702,64:POKE 694,0:GET #1,A:IF (
A>=48 AND A<=57) OR (A>=65 AND A<=70)
THEN ? CHR$(A);
3 IF A=32 OR A=44 THEN ? ",";
4 IF A=126 THEN ? CHR$(126);
5 IF A=155 THEN ? :? :? "POKE 842,12:N
EXT L":POSITION 2,0:POKE 842,13:STOP
6 GOTO 2
```

TINYFONT

```
10 GRAPHICS 0:POKE 752,1:? "Setup...":
DIM A$(2048):Z=INT(ADR(A$)/1024)*1024:
Z=Z+1024*(Z<ADR(A$)):FOR A=0 TO 1023
20 POKE Z+A,PEEK(A+256*PEEK(756)):NEXT
 A:POKE 756,Z/256:POKE 82,13:? CHR$(12
5);"   TINYFONT":? "         ";
30 ? :? :? "<Arrows>Choose":? " <+*-=>
 Moves":? " <SPACE>Marks":POSITION 15,
17:? "Edit - ' '":POKE 82,2
40 S=PEEK(88)+256*PEEK(89):FOR B=0 TO
3:FOR A=0 TO 31:POKE S+764+40*B+A,B*32
+A:NEXT A:NEXT B:OPEN #1,4,0,"K"
50 X=1:Y=1:POKE S+703,C:FOR B=1 TO 256
:D=S+255+40*Y+X:E=PEEK(D):POKE D,E+128
:GET #1,B:POKE D,E
60 IF B<32 AND B>27 THEN C=C-(B=30)+(B
=31)-32*(B=28)+32*(B=29):C=C+128*(C<0)
-128*(C>128):GOSUB 90:GOTO 50
70 IF B=32 THEN POKE Z+C*8+Y-1,PEEK(Z+
C*8+Y-1)+((2^(8-X))*(E=0))-((2^(8-X))*
(E<>0)):POKE D,3*(E=0):NEXT B
80 X=X-(B=43)+(B=42):Y=Y-(B=45)+(B=61)
:X=X-8*(X=9)+8*(X=0):Y=Y-8*(Y=9)+8*(Y=
0):NEXT B
90 FOR B=0 TO 7:POSITION 16,B+7:A=PEEK
(Z+8*C+B):D=127:FOR E=1 TO 8:? CHR$(32
+3*(A>D));:A=A-(D+1)*(A>D)
100 D=INT(D/2):NEXT E:NEXT B:RETURN
```

TFSVLD

```
5 DIM FN$(15):FN$="D1:TINYFONT.NO#"
35 POSITION 9,6:? "<A-Z>/<^A-^Z>Load/S
ave"
73 IF B<27 AND B>0 THEN FN$(15)=CHR$(B
+64):OPEN #2,8,0,FN$:FOR A=0 TO 1023:P
UT #2,PEEK(Z+A):NEXT A:CLOSE #2
77 IF B>64 AND B<91 THEN FN$(15)=CHR$(
B):OPEN #2,4,0,FN$:FOR A=0TO1023:GET#2
,B:POKE Z+A,B:N.A:CLOSE#2:GOSUB90
```

ADVENTURES IN THE MAGIC SACDOM

By Jeff Greenblatt

HARD DISK SUPPORT and the TRANSLATOR

In my July/August column, I thought that a higher version of the Magic Sac would be available; the Disk Drive (officially named The Translator) would be available; and that I would use *Pagemaker 2.0* with the Sac to produce this month's article. Well, I was correct on at least one of the three.

Version 4.36

By now you all should know that version 4.36 of the Magic DRIVER4.PRG is available. Again, this is an upgrade to version 4.2 purchased from Data Pacific. It replaces the original DRIVER4.PRG on that disk or previous versions (4.32 and 4.34) which were uploaded to GEnie and Compuserve. This version is the most impressive version issued to date. As a direct result, the *Current Notes* Magic Library has increased by 10 new disks. A listing and description of these disks is included in the latter part of this article. If you don't have this latest version, it is available on GEnie in the ST Library as file #3304 or it can be obtained from *Current Notes* on disk #M0.

The Translator

The Translator is still in the development stage. Dave Small is currently fine tuning the device. The reason why it has been delayed is that much of the software to make the ST drive behave like a Macintosh drive is contained in EPROMs, so all the bugs must be worked out before it is released. Unlike software contained on diskettes, EPROMs have to be erased and reburned in order to upgrade the code they contain. This would be a very time-consuming and costly process for Data Pacific. When it is released, it will come with version 5.0 of the Magic Sac. In a recent conversation with Dave Small, he indicated to me that version 5.0 will support the HFS file management system. If this is included, look for a whole new realm of software to run on the Magic Sac.

The tentative price for The Translator is $199. My guess is that it should be released in the latter part of September or early October. I should have a prototype for beta testing in late August (the deadline for articles is the 10th of the previous month), so I will most likely be able to report on it's performance in the October issue of *Current Notes*. To quote Dave Small "... the Translator can read and write Mac disks. For instance, you can bring a Mac disk home from work, work on it, and take it back to work — it'll read fine on your Mac at work."

Version 4.5

As I write this article I'm waiting for version 4.5 of the Magic Sac. This version will clean up a few more bugs allowing even more programs to work. The major differences between this version and previous ones is that it will support a hard disk and you will be able to preconfigure the software so that it will run automatically from an Auto folder to the point where the Mac startup disk is inserted. This includes the printer port configuration set to default to parallel. On the other hand, if you have a hard disk, you will be able to boot the entire system up to the Mac desktop "in 5 seconds flat". Other interesting goodies included with version 4.5 will be a routine to warn you that you have a Bad Finder and a new utility to transfer files between TOS and MAGIC formatted disks in either direction.

The following is an excerpt from a message which Dave left on the Product Support round table of GEnie:

I spent last night until 3 and all day today bringing up the new cut of the hard disk driver (version 4.40). We brought it up, got the disk icon, and started copying files into it. So, we copied in *MacPaint* and *System*. And we ran *MacPaint*.

When you do this with floppies, it takes, oh, 18 sec to load *MacPaint*. It took the hard disk 3 sec. As soon as I picked my jaw off the floor, we tried going back to Finder. 20 sec or so off floppy; 3 1/2 sec on hard disk. The only thing I know of that runs at this speed is a Ramdisk, like Ramstart. But this is a 16 megabyte Ramstart. So. It blew my socks off.

Current plans are to include the HD driver

and partitioner with version 4.5, which we'll release after a little beta testing to make sure it doesn't eat hard disks. It requires you to assign one, or more, of your partitions from GEM to Magic Sac, which then is lost to GEM for good (unless you reformat). There's a partitioner to do that.

We'll support up to four hard disk partitions active at any time, which ought to be enough for anyone. We're going to try for twin drive support as well, for those of us with two HD mechanisms; I want to assign my 40 to GEM and a 20 to Magic Sac. Particularly, I really want to build up my PD library on the HD.

The filing system we are all using is the original Mac Filing System. It controls the low gut-level mechanics of how data is written to the disk and organized. MFS "fakes" folders, they aren't really there. It is also constrained to 112 files per disk; today we hit 99 and could save no more. As you know, 99 files per disk is fine for floppy and bad for HD. So, for right now, you'll need to use lots of little partitions; 3-5 megabytes is fine.

Apple also knew that MFS was limited (particularly when they released their Hard Disk 20). So they dreamed up a new filing system, HFS (Heirarchical (sp?) Filing System). HFS does true folders and the like. It isn't as speedy as MFS, but you can have lots more than 112 files, too.

Now, Finders 1.0 through Finder 5.5 run just fine with MFS, as you all know by now. Apple released the HFS System with the 128K ROMS with Finder 5.0. HFS only works on Finders 5.0 and above.

Does this mean we'll never get HFS, because it's in the 128K ROMS, and we use 64K Roms? No. A file called "Hard Disk 20", which you can find on Apple's Developer Release disks and many other places, patches the 64K ROMS for HFS, so HFS works. All you do is put Hard Disk 20 in your System Folder, and it's loaded automatically at bootup. (You'll get a little message at startup). After that, you're an HFS machine.

So next time someone tells you the 64K Roms are obsolete, just smile. You have Hard Disk 20. Now Hard Disk 20 does not yet work with revision 4.36, and I have a couple of tweaks to put into it; remember, HD-20 does three things:

1) HFS on 64K ROMS
2) 800K disk drives on 64K ROMS
3) Hard Disk 20 support

Since we already have 800K disks and Hard Disk, we only need (1). So there's a little judicious shorting out to do.

ALSO: If you see an 800K disk formatted by a Mac, it is formatted into HFS. You'll see a tiny dot between the left side of the two horizontal bars, at the left side, on the disk window. 400K disks are always MFS. Our 800K disks are MFS, and right now, the hard disk is MFS. HFS has to wait until Hard Disk 20 comes up.

Consider this. Apple fixed the video interlace so the Mac SE, the new one, runs at a true 8 Mhz (well, close enough). So now they're as fast as an ST at native clock rate. The hard disk we just brought up blows the Apple SCSI drive into the weeds, and the serial drives aren't even in the same league -- that ol' Atari hardware in action. Folks, what we got us here is a Mac SE.

If I sound psyched up, it's because I saw that HD in action. I am awed. We did no optimizing, just the first, hack it together test -- and it was so fast we couldn't believe it. I still can't. It makes GEM look like a slug, honestly. We're planning on 4.5 being out in a couple of weeks, after some insurance-type beta testing, so get ready, HD owners... Mac Sacking will never be the same after you try it off the HD.

Dave is obviously very excited about the Hard Disk support about to be released. I'm pretty excited about it too, but not enough to go out and bust my budget on a Hard Disk. If you plan on buying a Hard Disk and intend to use it for ST and Magic use (or even PC-Ditto), don't bother with a 20 meg, you'll need a minimum of 30 meg. Since I don't have a Hard Drive and as I said before, my budget won't allow me to purchase one in the foreseeable future, I won't be able to report on its performance. If anyone out there wants to write an article on version 4.5 in conjunction with Hard Disk support, I will include their article in a future issue of this column.

Pagemaker 2.0

As far as *Pagemaker 2.0* is concerned, I found the program cumbersome to use, slow and it doesn't support the Print Adjustment DA of Epstart for high quality dot matrix printing. Given a choice between *Ready, Set, Go! 3.0* and *Pagemaker 2.0*, I prefer RSG 3.0 for my all around use. While it doesn't have all the bells and whistles of *Pagemaker 2.0*, RSG 3.0 is more user

friendly and can actually be used as a word processor. Incidentally, ***Ready, Set, Go! 4.0*** is supposed to be released on August 17th, and according to a friend who has seen it, it appears to put ***Pagemaker 2.0*** to shame. We'll see!!!

New Library Disks

As I mentioned earlier, version 4.36, now available on disk M0, was an incredible release. I was storing an awful lot of Macduds hoping that Dave would improve the code sooner or later so that we can all enjoy these shareware or public domain programs. The new disks are M1C, and M19 through M27. All the files on these disks have been thoroughly tested and work fine with version 4.36 of the Magic Sac. Most will crash if you are using anything less the version 4.36.

M1C: Finder 5.3 contains a complete version of Finder 5.3 with System 3.2 and all the support files including Chooser, system fonts and desk accessories. Finder 5.3/System 3.2 is needed to run certain applications that won't run with Finder 4.1/System 2.0 such as OverVUE, More 1.1, Thunder and MicroSoft Word 3.0. This disk should only be used with a 1040ST or 1 meg upgraded 520 ST.

M19: PCS Player contains a Pinball Construction Set Player with five construction set games templates. These will provide many hours of enjoyment. A friend of mine with access to a Mac ported it back to the Mac to see the difference. Aside from sound on the Mac, he reported it appeared to run faster on the Magic Sac.

M20: Games No. 5 contains six new games for you gamers. In Crystal Raider you must gobble up stars while trying to shoot down aliens or avoiding them. Daleks is the same as the ST version; avoid robots and make them crash into one another. On-The-Contrary is a variation of the game concentration. In Stuntcopter, you maneuver your copter so that your stuntman can jump on the moving hay wagon; the higher you jump from, the higher your score, but watch out for clouds. Chase'Em is a very challenging game in which you have to release a moving ball down slots to hit targets. Golf MacWay is a full golf game including tee, fairway and green scenes plus you must choose your club and swing strength.

M21: Games No. 6 contains five additional new games to blow your mind. Guess is a variation of mastermind only the computer uses four-letter words instead of colored marbles; lots of fun. In Hot Air Balloon, you must maneuver your balloon over trees, cars, and telephone poles while trying to avoid a pesky bird trying to punch a hole in your balloon. Match is a simple game in which you must match graphic shapes; this one is for young children. Ramm 1.0 is a variation of the game of snake only tough to beat. Trick-Track is an English-pub card game best played with two or more players. Utaan Attack is a space shoot'em up game which is somewhat similar to Missile Command.

M22: Graphics No. 2 contains six really super applications. BlowUp 3.0 enlarges MacPaint documents by a factor of two. It creates four MacPaint documents for every one it does; it's great for posters. CalendarMaker 2.2.1 is the latest version of this super calendar creator program. Import MacPaint pictures into your calendars and create custom calendars for friends and relatives. Vanlandingham is one of the best renditions of the bouncing ball (a la Amiga) I've seen on the Mac. Graphic is a variation of the bouncing ball only a double donut is used. In Math21 you create really interesting graphic 3D and 2D images using a variable math formula of your own making; anything goes on this one. In Spiro you create spirograph-type effects using menus of your choice.

M23: Vampire Castle contains version 7.7 of this graphic text adventure. If graphic text adventures are your thing, this one will keep you going for weeks on end. (FOR 1 MEG MACHINES ONLY.)

M24: Deep Angst, is by far the largest and best PD graphic text adventure I have seen around. It is so large, it consumes 328k of a disk which doesn't allow for a finder and system on single-sided disks. This program was created with World Builder which is an adventure construction set type program. Note: a line of little squares appear on the screen and sometimes scramble the text. The fix is to relocate the text block by dragging it or click on the lower right hand block to restore the scrambled text. (FOR 1 MEG MACHINES ONLY - TWO SINGLE-SIDED DRIVES OR A DOUBLE-SIDED DRIVE RECOMMENDED.)

M25: Games No. 7 contains four new games worth playing. Billiards is one of the best PD pool games I have ever seen. Hangman is a Mac version of the old standby game and can be played against the computer which has a pretty good set of words in its vocabulary. Safari is a simple game with excellent graphic animals. As the name implies, you shoot animals on the run to score points (here come the complaints from the humane society). CrossMaster is a demo version of a crossword puzzle generator and player.

M26: Graphics No. 3 contains six new graphic applications. MakePaint is a handy little application that converts Pict (MacDraw) files and clipboard files to MacPaint documents. With

Shapeart, you can create designs using 12 different primitive shapes and print them out. Star Flight creates some visual effects that are dazzling. With Paintmover you can manipulate and print out MacPaint documents. 3D Sketch is a demo version of a CAD program; you can load and save files, but can't print them. Smallview is a very nice appointment calendar program complete with a month at a glance plus printout features.

M27: Utilities No. 3 contains nine very useful applications. FEdit 3.0 is the last PD version of this application before it became commercial. This is a real handy file and volume editor with many uses. Lazymenu is another one of those programs that make the pulldown menus behave like they do on the ST. Menu Editor allows you to edit menus of any application, cut and paste menus between applications and create new ones. RamStart 2.0+ is a fully configurable ramdisk program. Put it on a disk by itself for downloading files. Save the files to the ramdisk using Freeterm or Termworks and improve xmodem transfer by 20%; save $$$ on GEnie, Compuserve, Delphi and other information services. ShrinkToFit is an application program similar to Packit, it allows you to combine files for archiving or mass uploading and downloading. SuperFinder 4.0 and WayStation are alternative finders which replaces the finder and basically has the same features as the finder. Each is somewhat different from the other. With Unpit you don't have to use Packit to unpack archived files; this one takes up a lot less disk space and runs faster than Packit. Try it using RamStart for a super fast job. Road Atlas is one of the most unique programs I have ever come across. It really doesn't fit in as a utility or anything else for that matter. With this program you choose the city you want to start your trip from and your destination. The program then plots a course for you and lists the roads to take from city to city and the distance of travel on each road plus the cumulative total mileage. This one is fun to play with, maybe I should have put it on a games disk.

TIPS

This months tips concern some odd things that have been reported.

All of the *Current Notes* Magic Library disks from M2 through M18 have Finders on them that have become what is called "frozen" so that they only work on 1 meg machines (configured to 512k or 828k). The way the Finder gets "frozen" is to copy the finder from the desktop by dragging it to another disk. When this is done the Finder is encoded so that it will only boot up on the system size it was copied from. If you have a 1 meg machine you shouldn't have any problems using these disks as startup (boot) disks in either 512k or 828k modes. For those of you who are still using a 520ST, the fix is to copy the Finder from a disk that is known to boot on the 520ST by dragging it to the offending disk. Disks M19 through M27 have Finders on them that have not been "frozen". They should boot up on any size configuration. Please note that not all *Current Notes* Library disks have a Finder and System on them.

I have occasionally heard that the Finder on disk M1 of the *Current Notes* Library is bad and does not boot up. If you think you have an M1 disk which is not performing properly, please return it to me in care of *Current Notes* for a free replacement. Please include a short note on what the problem is and whether you have a 1 meg ST or a straight 520ST.

Some application programs will not work properly with Epstart. An example of this is *Microsoft Word 3.0* which doesn't give the proper dialog box to use High Quality dot matrix printing. In order to get the proper dialog box, rename the Epson FX driver to Imagewriter. It's as simple as that!!

STYLE WRITER

The Next Best Quality to a Laser Printer

Review by Wm. Price

Laser typeset copy is elegant, but so too are prices for the printers. For those of you that don't have a laser printer in your tea leaves yet, there is hope. It's not a super low cost laser engine, it's *Style Writer* from Carolina Engineering Labs (CEL). It is low cost, it produces the next best output to a laser printer and does it on your own dot matrix printer. *Style Writer* is an active interface device that connects between your Atari XL/XE, ST or any other PC and any dot matrix printer. *Style Writer* produces Near-Typeset-Quality from a set of font ROMS contained in the interface. The device has sockets for five ROMs while two are supplied as standard.

17 fonts such as Roman, Roman Bold, Roman Italic are available. Most of the fonts are proportionally spaced in the same manner as typeset copy. However, Courier and Prestige are monospaced typewriter fonts and will not add quality beyond that available from a daisywheel printer. Font sizes range from 6 to 14 points for Roman while others like Century are 6 to 12 points.

A ROM contains a full upper and lower case character set for one font, type face, and size, e.g. Roman font, in Normal face, and 14 point size occupies a single ROM. If italic or another size is needed, this requires a separate ROM. Although ROMs are available for bold face, bold can be produced from normal face with a keyboard command. This synthesized bold is very acceptable although ROMs with specifically designed bold character are less "thick" and somewhat better in quality. For those who desire a variety of fonts, additional capacity beyond five ROM sockets would be welcome.

Style Writer also contains a printer buffer making it a bit more of a bargain. Standard is 8K with options for 64K and 128K. Depending on buffer size, retail prices are $99, $169, and $199. Dont' wince at the jump in price for 64K because two TI processor chips are provided to handle the additional RAMs. The 8K model is fixed in size where the 64K version can be expanded. Many plain printer buffers can easily cost more than this. Extra font ROMs are available for $13.95. Do fill all five ROM slots, and since these ROMs are easily replaced, get extra fonts to fill your near-laser-quality needs. Suggested are Roman and Roman Italic in 12 and 14 points, and Century and Century Italic in 12 points. Although smaller sizes may be useful for footnotes, etc., sizes less than 10 points are pressing the limits. Sans Serif and Sans Serif Italics are also good choices. Sans Serif is similar to Helvetica but with more variations in thickness of character lines and curves. Since bold face can be generated by a keyboard command, separate bold ROMs should not be needed. Fancy output is offered with Old English in sizes to 16 points, Invitation at 18 points, and Jazzy at 14 points.

How Style Writer Works. *Style Writer* operates in NLQ (Near Laser Quality) or bypass modes. In bypass, the ASCII character stream or graphic dumps from your computer are sent through the buffer to your printer. For NLQ, the font ROMs are accessed to generate "typeset" output as graphics. The character generator internal to your dot matrix is bypassed as it is with any graphic output. You don't buy speed with *Style Writer*, you get quality. Output in draft quality or NLQ takes at least two passes to form a normal typeset line and three to form bold face. For 12 point and larger sizes, the letters exceed the print head's height; so two or more graphic line passes are made to form a full "typeset" line. If it's speed that's important, laser printers are still the best answer, but there is a price for this feature.

Style Writer works with most printers, either serial or parallel which you must specify. Epson compatibles are the best bet, with the Epson FX-85 permitting a high quality print with six passes per line. Connections are straight forward. All commands for *Style Writer* fonts are preceeded by a reverse slash. Fonts are specified by the commands \1 through \5. If you don't remember the fonts that are installed, \? will list them to the printer along with their numbers. High quality is directed by \Q and bold emulation with \B. Although \B and \Q can be used in combination, \B alone gives a better defined bold face. Margins values set with \L and \R are relative to the left margin defined in your word processor set-up. *Style Writer* can also tab text with a \T and a number for the column or position relative to the left margin. However, this does not create tab settings. Tab commands must be imbedded in-line with text at every point a tab skip is required.

Other format commands are \C for center and \J for justified lines. Text can be highlighted with a grey screen, printed in inverse, or underlined. The eye opener is \X which produces horizontally expanded type which is useful for headers. Excepting font selection commands and margin settings, commands toggle on and off. All settings are erased with \E. Unlike *ST Writer*, commands are not followed by a space.

Style Writer Uses. *Style Writer* produces proportionally spaced characters like those generated by typesetting. For the 93 characters, numbers, and punctuations that are printed, some 22 different widths are used. Therefore, *Style Writer* works best with a word processor that allows you to define horizontal spacing or escapement values for characters displayed on the monitor. Later versions of *Word Star 2000* provide this capability. Although normal monitor displays use characters of equal width, variable escapment will spread these characters to present lines in the same lengths as they will appear in the printed version. This is not a WYSIWYG display, but it works wonders in determining printed line lengths from the monitor display. Yes, you must put in hard carriage returns at the end of lines. The word processor doesn't automatically control printed line lengths. *Style Writer* works on the lines that you send. If too short, they won't justify; if too long, they will exceed the right margin.

Unfortunately, word processors that support variable character spacing or escapement definitions are not currently available for the ST or XL/XE. But Microsoft's new entry for the ST may include this feature. You recall that many WPs on the Mac are claiming desktop publishing capability with such minimal but essential features. Another solution may be to run your text file through *Publishing Partner* using the same margin settings and font sizes that will be used for *Style Writer* output. This will give variable spacing and automatically break lines at appropriate lengths. Hard carriage returns can then be placed in the original file for printing through *Style Writer*.

Without this WP support, you can turn out a paper in about three tries after making line adjustments. The first try gives you a good idea of line lengths on the screen as they relate to printed lines. The next two tries are for tweeking those that are slightly short or long. Depending on the use of your presentation, the quality can be well worth the patience. Resumes are given a professional look.

My easiest and most productive use of *Style Writer* has been for generating disk labels. The four dimensions are defined with *ST Writer*, and the left and right margins are additionally defined within these bounds with *Style Writer* commands. All lines are centered -- it's easy. Roman Bold in 14 point is used for the disk I.D. at the top, 12 point Roman Italic for annotations such as "Magic", 14 Roman Bold again for the disk title and version, and then 12 point Roman for remarks such as "DOUBLE SIDE", "INCLUDES FINDER 4.1", etc. The results are superb -- so much so that demands from friends for elegant labels have consumed time at the expense of exploring other good uses. Over 1500 disk labels have been printed with *Style Writer*. This has been a real production operation. From now on when other uses are discovered, they will be held in tight secrecy in my local environment.

Last December, *Family Computing* picked *Style Writer* as one of the six best products of the year and singled it out as the best accessory. Now that you are an expert on how to use *Style Writer* check it out. It will be a great gift for your printer, a worthy addition to your system, and an interim measure until a low cost PostScript laser printer hits the market.

CURRENT NOTES ST LIBRARY

[Note: Programs are either public domain, copyrighted but distributed freely (e.g. ST Writer), or shareware products where the authors would like an additional payment if you like their products. ST and MAGIC disks are $4 each. ST disks marked with "**" require a double-sided drive. PC disks run only on DOUBLE-SIDED drives and are $5 each. Add $1 per every 6 disks for postage. Order from CN Library, 122 N. Johnson Rd., Sterling, VA 22170. VA residents add 4.5% sales tax. NOTE: new titles this month are underlined.]

#172: JUGGLER GRAPHICS DEMO: A juggler in low rez converted from the Amiga.
#171: "C" PROGRAMS NO.6: BMODEM, SEALINK, and two unix type utilities, SED and CTAG.
#170: DIOX v0.9: Easy user interface simplifies the construction of dialog boxes in GFA BASIC. Program outputs GFA source code.
#169: GFA BASIC HELP DISK: Lots of "tips" on using GFA BASIC. Includes graphics tutorial.
#168: GFA BASIC PROGRAMS NO.2: Source to Boulder Dash variant, Battleship, and RECALBDB (a record album database program).
#167: TERMINAL PROGRAMS NO.6: WTERM, TRANS100 and the AMULTI compatible version of BMODEM that allows file transfers in the background.
#166: ST UTILITIES NO.19: ICD utilities including one that preserves the time/date stamp in the copying process. Includes several files for altering the step rate of 5 1/4 inch drives for use with the ST.
#165: DISK LIBRARY PROGRAMS: DISKCAT v1.3 and MENU.PRG (Pasca source to MENU included). MENU is the BEST PD disk library program available.
#164: ST GAMES NO.9: Boulder Dash variant, Battleship, Lunar Lander.

#163: PROGRAMMER'S EDITOR DISK
#162: UTILITY NO.18 HARD DISK UTILITIES
#161: TINYPICS NO.9 VEHICLES-2 (MONO)
#160: CLIP ART Monochrome No. 3
#159: CLIP ART Monochrome No. 2
#158: CLIP ART Monochrome No. 1
#157: MULTI-LINGUAL WORD PROCESSOR DEMO
#156: SAMPLE "C" PROGRAMS NO. 5
#155: UTILITY DISK NO. 17
#154: UTILITY NO.16 MODULA-2 UTILITIES
#153: EAMON ADVENTURE GAMES
#152: PD 3-D CONTROL ACCESSORY
#151: ** ANTIC DEMO "SPACE PROBE"
#150: FIRST WORD PRINTER DRIVERS
#149: TIM OREN'S GEM PART-II
#148: TIM OREN'S GEM PART-I
#147: TINYPICS NO.9 CLIP ART
#146: TINYPICS NO.8 FAMOUS FOLK
#145: ST UTILITY DISK NO. 15
#144: ST UTILITY DISK NO. 14
#143: CITADEL BBS
#142: ST TERMINAL DISK NO. 5
#141: ST GAME DISK NO. 8
#140: ST GAME DISK NO. 7
#139: MONOCHROME GAME DISK NO. 3
#138: TINYPICS NO. 7: ANIMALS
#137: TINYPICS NO. 6: CARTOONS #2
#136: MICRODEAL DEMO PROGRAMS
#135: SHANGHAI DEMO PROGRAM
#134: ST-REPLAY by 2-BIT SYSTEMS
#133: SAMPLE C PROGRAMS NO. 4
#132: ST UTILITY DISK NO. 13
#131: ST UTILITY DISK NO. 12
#130: SAMPLE GFA BASIC PROGRAMS #1
#129: SPHERES! DEMO
#128:** STEELYBOINK! DEMO
#127: ST FONT EDITORS/LOADERS
#126: PUBLISHING PARTNER UTILITIES
#124: ATARI ST ICON LANGUAGE, V6.3
#123: SHAREWARE C COMPILER
#122: ST GAME DISK NO. 6
#121: UTILITY DISK NO. 11
#120: TINYPICS NO. 5: CARTOONS
#119: TINYPICS NO. 4: TRANSPORT
#118: TINYPICS NO. 3: SCI-FI
#117: ST DESK ACCESSORIES NO. 2
#115: AEGIS ANIMATOR DEMO DISK
#114: MUSIC STUDIO SONGS NO. 2
#113: ST UTILITY DISK NO. 10
#112: ST GAME DISK NO. 5
#111: SAMPLE PASCAL PROGRAMS NO. 3
#110: SAMPLE MODULA2 PROGRAMS NO. 3
#109: TINYPICS NO.2 EMPIRE / SHUTTLE
#108: TINYPICS NO.1 GH BUSTERS/RAIDERS
#107: ST RAM DISKS
#106: FIRST BYTE SMOOTH TALKER DEMO
#105: CN MOVIE MAKE IT MOVE DEMO
#104:** ALADDIN ST VOL. 1.0 DEMO DISK
#103: (M) SKY-MAP: STAR CATALOG PROGRAM
#102: ST UTILITY DISK NO. 9
#101: ST GAME DISK NO. 4
#100: ST GAME DISK NO. 3
#99:** DIGITAL SOUND DEMO NO. 3
#98: XLISP VERSION 1.7
#97: LITTLE SMALLTALK
#96: TINY COLOR SLIDES NO. 8
#95: ST UTILITY DISK NO. 8
#94: ST UTILITY DISK NO. 7
#93: SAMPLE PASCAL PROGRAMS NO. 2
#92: SAMPLE MODULA2 PROGRAMS NO. 2
#91: BOFFIN DEMO DISK
#90: SHINY BUBBLES
#88: UNITERM VT102 EMULATOR, VER 1.7B
#87: CP/M-80 PROGRAM DISK NO. 1
#86: CP/M-80 V 2.2 EMULATOR TOS DISK
#85: SOUND AND GRAPHICS DEMO NO. 3
#84: ST TERM V 2.1 DEMO DISK
#83: SAMPLE MODULA2 PROGRAMS NO. 1
#82: SAMPLE "C" PROGRAMS NO. 3
#81: ST UTILITY DISK NO. 6
#80: MONOCHROME GAMES DISK NO. 2
#79:** DIGITAL SOUND DEMO NO. 2
#78:** DIGITAL SOUND DEMO NO. 1
#76:** PRINT-TECHNIK SOUND DIGITIZER
#75: TINY COLOR SLIDE SHOW NO. 7
#74: ST SAMPLER DISK NO. 1
#73: ST UTILITY DISK NO. 5
#72: ST UTILITY DISK NO. 4
#71: FORTHMACS VERSION 1.1
#67: BALL/BIRD DEMO DISK
#66: GLOBE DEMO DISK
#65: TINY COLOR SLIDE SHOW NO. 6
#64: ATARI DOLL ANNIMATION DEMO
#63: ST UTILITY DISK NO. 3
#62: HACK ADVENTURE GAME
#61: PRINTER DRIVER FILES
#60: MUSIC STUDIO SONGS
#59: VIP TEMPLATES
#54: MONOCHROME PUZZLE
#53: ATARI ST FORTH-83 MODEL
#52: TINY COLOR SLIDE SHOW NO. 5
#51: TINY COLOR SLIDE SHOW NO. 4
#50: GRAPHICS DEMOS NO. 3
#49: SAMPLE PASCAL PROGRAMS NO. 1
#48: TINY MONO SLIDE SHOW NO. 1
#42: TINY COLOR SLIDE SHOW NO. 3

CURRENT NOTES ST LIBRARY

#41: TINY COLOR SLIDE SHOW NO. 2
#40: TINY COLOR SLIDE SHOW NO. 1
#37: ST GAME DISK NO. 2
#36: ST DESK ACCESSORIES NO. 1
#33: SAMPLE "C" PROGRAMS NO. 2
#31: PASCAL AND MODULA-2
#30: ST UTILITY DISK NO. 2
#29: MICROEMACS TEXT EDITOR, V3.7I
#25: DEGAS UTILITY DISK
#21: ST GAME DISK NO. 1
#18: ST UTILITY DISK NO. 1
#15: ST WRITER VERSION 1.71
#14: NEOCHROME PAINTING PROGRAM
#11: RAMDISK AND DOC FILES
 #8: SAMPLE "C" PROGRAMS NO. 1
 #7: GRAPHICS DEMO PROGRAMS

CURRENT NOTES PC LIBRARY

We are introducing this month a library of PD and shareware products for the IBM PC and PC-compatible market, including the Atari ST running under pc-ditto. These disks are all on 3.5" format. They are formatted for 360K on a DOUBLE-SIDED DISK. You will need a double-sided drive to read these disks even though they only are formatted for 360K. All disks are $5 each.

#P10: ZIP: The Ultimate Utility, (c) 1985, 1986 by Edward Dong. Complete file manipulation utilities including ARC and deARC as well as an ascii terminal with XMODEM transfer.
#P09: DRAW POKER V1.0 simulates the Nevada video draw poker machine, and MS-TREK 1.0, one of the best Star Trek adventure games.
#P08: TIME SAVER calendar and appointment book; and PFM, Personal File Management System to help you deal with DOS.
#P07: EASY BASE, this easy to use data base helps new users create and manage medium size data base applications; and HOME BANK BOOK helps you keep track of your funds in a bank-book style system.
#P06: PC-DBMS, Verson 1.2, data base program; FLOW CHART UTILITY, create your own organizational flow charts; and MORTGAGE CALCULATOR.
#P05: AS EASY AS, a powerful spreadsheet (1,024 rows by 256 cols) with a large set of menu command features.
#P04: PC-OUTLINE, V.1.05. An outlining and planning program, allows you to randomly enter info of almost any type and then organize it into a hierarchial structure.
#P03: QEDIT, the Quick Editor. A fast text editor, uses all available memory, multiple file editing, split screens, only 39K of disk space.
#P02: PC-STOCK, a general purpose stock trend analysis program developed with ease of use and graphic presentation of data as primary objectives; and CARDEX, create a rotary index card file equivalent of a ROLODEX.
#P01: PROCOMM, v2.3 Excellent shareware terminal emulation program; and MINIHOST, a host BBS system.

CURRENT NOTES ST MAGIC DISKS

These disks contain Macintosh programs for use with the Magic Sac Cartridge on the ST. Disks are already in Magic format.

#M27: UTILITY DISK NO. 3. WayStation, lazymenu, SuperFinder 4.0, Unpit, ShrinkToFit, FEdit 3.0, RamStart 2.0+, MenuEditor, Road Atlas.
#M26: GRAPHICS DISK NO. 3. MakePaint, ShapeArt, StarFlight, PaintMover, 3D Sketch, Small View.
#M25: GAME DISK NO. 7. Billiards, Hangman-9.0, Safari 1.0, CrossMaster Demo.
#M24: DEEP ANGST. Graphic adventure game. 1 Mb ST only.
#M23: VAMPIRE CASTLE. Graphic adventure game.
#M22: GRAPHICS DISK NO. 2. BlowUp 3.0, BlowUp Notes, CalendarMaker 2.2.1, Graphic, Math21, Spiro, Vanlandingham.
#M21: GAME DISK NO. 6. Hot Air Balloon, Guess, Match, Trick-Track, Ramm1.0, Utaan Attack.
#M20: GAME DISK NO. 5. Crystal Raider, Daleks, On-The-Contrary, Golf MacWay, ChaseEm, StuntCopter1.2.
#M19: PINBALL CONSTRUCTION SET GAMES. 5 games: apple, face, madonna, patchwork mess, samurai; includes pinball construction set player.
#M18: DESK ACCESSORIES NO. 2. Alarm clock, calculator+, choose scrapbook+, DA File, Disk Labeler, Explorer, Hex Calc, LabelMaker, MemWindow, MockPackage+, Multi-Scrapbook, Popup, ProCount, ReadiPrinter, Ruler, Skipfinder 6.1, Sleep, Stars 1.6 and Timer.
#M17: DUNGEONS OF DOOM 4.0. Graphic adventure game.

#M16: FONT DISK NO. 3: 24 fonts.
#M15: GAME DISK NO. 4: Space Attack, Amps 3.0, Jago, Nim, Macheads, Canfield, Lets Get Tanked, Bricks.
#M14: FONT DISK NO. 2: 11 fonts.
#M13: FONT DISK NO. 1: 18 fonts.
#M12: MACBILLBOARD. Enhanced MacPaint clone.
#M11: PRINT UTILITIES: 8 utilities, 3 fonts.
#M10: GRAPHICS DISK NO. 1: 12 programs, 5 pics.
 #M9: UTILITY DISK NO. 2: 7 utilities.
 #M8: DESK ACCESSORIES NO. 1: 29 accessories.
 #M7: GAME DISK NO. 3: MacYahtzee, Wiz Fire, MacCommand, MacBUGS, GO, Break the Bricks.
 #M6: GAME DISK NO. 2: Ashes, Wall Game, Wheel of Fortune, Black Box, Snake, Destroyer, Hex Puzzle, Office Attack, Symmetry Demo.
 #M5: DISK LIBRARIAN. Disk Lib. Ver 1.82A.
 #M4: GAME DISK NO. 1: Missile Command, Solitaire, MacLuff, Space Bubbles, BackGammon, Smile, Bash Big Blue, Munch, Meltdown, Maze 3D, Snow, Curves.
 #M3: UTILITY DISK NO. 1. Switcher, PackIt,...
 #M2: TELECOM DISK NO.1. Free Term 1.8
#M1C: FINDER 5.3 BOOT DISK. Show Version, ReadmacWrite, MakeScreen, Dcad Calc
#M1B: FINDER 1.1 BOOT DISK.
#M1A: FINDER 4.1 BOOT DISK.
 #M0: MAGIC SAC. Version 4.36

CYBER STUDIO: PART I

CAD 3D 2.0, Cybermate Animation, and Their Universe

Review by Bill Moes

Three-dimensional video modeling. Dazzling and sophisticated animation of those 3D images. The cover name: *Cyber Studio.*

The software includes two main programs. The first, *CAD 3D 2.0*, was written by Tom Hudson as an enhancement of his earlier (v.1.0) release. *Cybermate*, the second program, was written by Mark Kimball and is a computer language for editing and presenting the animations.

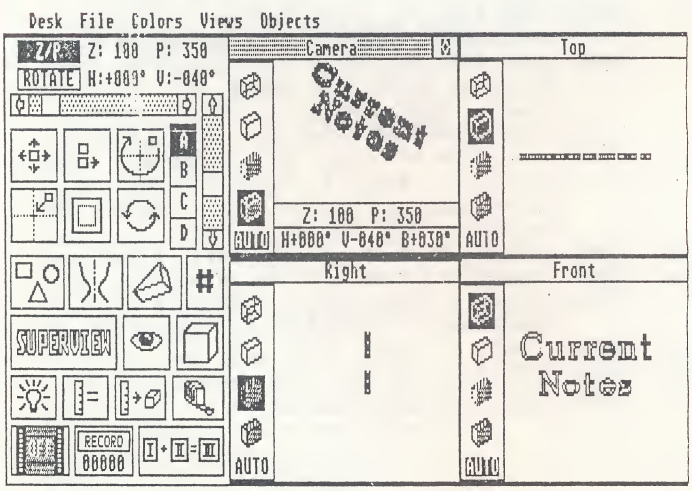
When combined, *Cyber Studio* offers a powerful 3D video modeling tool with extensive possibilities in a wide variety of applications. Now, a look at the separate components.

CAD 3D 2.0

Much of *CAD 3D* (which is the way I'll refer to v.2.0 unless noted otherwise) will be known to users of the previous release of the program, although there are some notable enhancements. Those not familiar with the original program, will find much to fascinate.

Screen. The GEM screen is divided into thirds. On the right two-thirds you'll see four mini-screens, each showing a view of the 3D objects. The camera screen and the top view are on the upper section; the right and front views on the lower part. The top, right, and front views may be switched to bottom, left, and back.

Figure 1: The CAD 3D GEM Screen

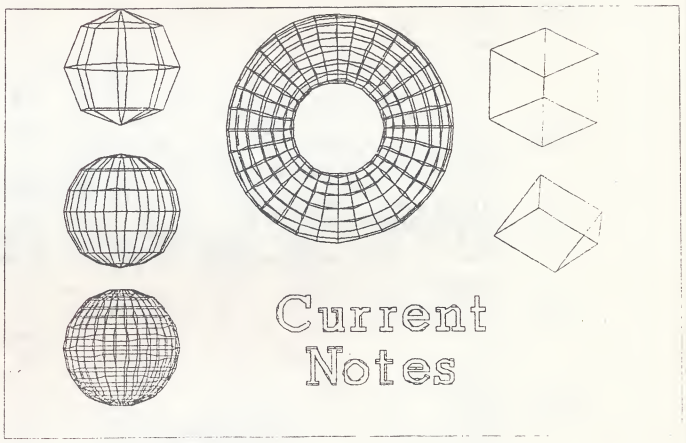


The left third of the main screen is sectioned for 20+ icons, allowing you to easily and quickly select the tools you'll be working with in creating your ob- jects. GEM drop-downs are generally used only for disk files and access to color menus.

Each of the four windows may be separately set to show the objects you are working on in one of four modes: wireframe, wireframe with hidden line removal, solid, or solid-outline. Each window can automatically update its view as you change objects, or turn off this update to speed the program along. Each window may be expanded to fill that right two-thirds of the screen.

Creation. Six primitives, or basic building shapes, are part of the program: cube, wedge, torus (doughnut), and three spheres. The choices in selecting a sphere offer three levels of complexity or actual roundness. The most complex (round) one also takes the most time to create and alter.

Figure 2: CAD 3D Primitives



It's also possible to develop your own unique building blocks with either a spin or extrude. These are each drawn on a separate full screen. The spin is much like a lathe. You draw one segment of the shape and the entire shape will then be spun around a central axis. The objects will be, as the documentation puts it, radially symmetrical. For example, draw a small circle and it's spun into a wheel. The actual detail of the shape will be limited by the need to draw

clockwise with no intersections. You're able to set the number of segments in the spun shape, which sets the smoothness of that shape.

You can spin just part of a shape, either by degrees or percentage. Perhaps you'll want just 75% of an object spun so that an inner area is available for view. The actual section spun may be set. It does not necessarily have to be the first 75%. Some objects may be more useful if shown from the 20% to the 95% marks on the shape. The creation of 3D pie charts is suggested and other uses come quickly to mind.

Extrude, which acts like a jigsaw, cuts a shape from the front to the back. It is made with a variable number of layers. The extrude must also be drawn clockwise without intersects. The templates, or original drawings you do for the spin and extrude, can be saved to disk.

Both spin and extrude offer the option of using rubberband lines as you place the dots to be connected. A dot grid is available to help in defining your shape. Placement mistakes may be corrected by the elimination, addition, or movement of points.

Together. After you've created a couple of shapes, you may wish to join them. This will mean that the joined shape will be treated as a single unit in the *CAD 3D* universe and it is in this way that complex objects are developed.

Several methods of joining are offered. The most direct is to simply put them together (Add), although the shapes don't actually need to touch to do this one. Another (Subtract) takes the second named shape away from the first wherever they overlap. The third (And) will remove everything except the area where the two shapes overlap. The fourth join available (Stamp) will stamp the second object onto the first and is a possible way to add detail and additional color to the first object.

Groupings. The objects you create and have in memory are placed in four selection choices. Within each, you can have some objects selected, others not. Then, by simply clicking on the selection letter (A-D), you can call up a varied grouping of your created objects.

Drag. When placed on one of the three view screens (not the camera screen), objects may be moved or dragged, either individually or as a group. You can set the drag to vertical, horizontal, or both. By thoughtful use of this, and using the views in all screens along with the other object movements possible, you are able to place each object where you want it. It is a process to do carefully. If objects seem to be getting away from you, click on the Home icon and they'll all scamper back around the imaginary center of that screen.

If you try to move or resize objects beyond the universe of the program, you'll be told to make the objects smaller or make different plans. Objects can be easily cloned (duplicated) and the clone will then be manipulated as a separate object to be moved or reshaped.

Rotate. In the three view windows, objects may be rotated around three types of pivot points: the center of the CAD universe, the center of the object group, or an arbitrary point you set. As is true with other choices, you can select only the objects you wish to rotate, leaving the others unselected for that change.

Sizing. Once you've developed a shape or two, you may find yourself wishing to change the size. No problem. Select the Size icon and set the slider to the percentage (50%-200%) change you're after. Click. It's changed. This process may be repeated and, for example, you can continue to reduce the object or group to 50% of the previous size until it has achieved those truly tiny characteristics.

Scale. To set the size of objects relative to other objects, select a master object and set one value of its size, either in metric units (meters and centimeters) or in U. S. standard (feet and inches). After setting the master unit, you can set the measurements (length, width, height) for each object you've created. All objects will then be shown in correct size relative to the master unit. With this you can also dramatically alter the shape of an object. Example: take the sphere you just created and, by reducing the height, flatten it into a pie.

A tape measure is available which allows you to measure sizes or distances with a click on the beginning and ending points. This is only accurate in the three location view windows.

Let There Be.... The use of light represents one of the most powerful aspects of 3D modeling in *CAD 3D*. Properly used, light creates the mood, enhances the depth. Its use in v.2.0 has been simplified, but its power remains. There are three movable light sources. Each source is represented by icons on a screen. Simply move light bulb icons around blank squares which represent the views in a 3D universe, setting the light to shine from the exact direction. These light sources are each set to a variable level of brightness or turned off. An ambient light is available which lights all sides equally. The changes in the lighting process for v.2.0 have greatly simplified a process many found a bit difficult in the early version.

Roy G. Biv. The illusion of three dimensions in *CAD 3D* is created by the color shading of an object. You are offered sets of seven or 14 preset shades of colors. Now, however, you can also customize your own colors. Set each of the 16 low-res colors to a dramatically different color, if you wish, creating objects of vastly varying colors, although this may negate the 3D illusion. You can also set any two end colors and click for the set of intermediate hues, much like you do in some paint programs. The edge color of a solid-outline object may now be any of the 16 colors, not necessarily the background color. The wire color can also be set. You can group any number of colors, not just seven (or 14) in a group. When it's time to select a color for an object, you specify the beginning (usually lightest) color used from a set of colors. It's not necessarily the first one in a set. In this way, you can use darker shades as the only colors for an object. You can change the color of objects, also. Colors are adjusted by the familiar RGB sliders.

The Kodak Section. You'll be spending a lot of time with the camera view. In the camera window you can change the zoom (apparent size of your objects) or the perspective (how far away it seems when you're looking). You'll also be adjusting the camera's horizontal and vertical rotation around the scene and, by using the rotation icon, the camera banking angle. You can, thereby, go around or through the scene you've created. Window slider controls and numerical readouts make this reasonably easy.

When you're ready for a look at the final image, click on Superview and you'll see the full-screen illustration for the viewing mode the camera view is set, including glorious STcolor if you're set for solid or solid-outline modes on a color monitor. If you're in the wireframe mode, you can make zoom, rotation, perspective, and camera bank angle changes while in Superview. This real-time update affords some quick idea on how camera changes you're thinking about will affect the view.

The *CAD 3D* object file may be saved to disk, permitting those objects to be used again. It's possible to load a Degas file as background for your 3D objects. This background will be unaffected by changes to the objects. After 3D images are added, you can save the new Superview screen (with background) to disk in a low-res format (Degas, Neo, or C.O.L.R.). On a color monitor, the program itself runs in medium resolution but Superviews are in low-res. If you're using a high-res monochrome monitor, the Superview will be saved in high-res Degas format.

The 3D images can be "painted" onto the background screen. The 3D data images will then become pixel images and you will not be able to manipulate them. This opens numerous creative opportunities: show different modes on a single screen, change the lighting, or build layers of a scene.

You can send the 3D images to a printer or plotter, using the GDOS and the Hardcopy programs provided, for a high-resolution printout. An Epson FX-80 driver is included. I had some occasional problems with this and found that it worked best using wireframe and/or a limited number of objects. Try doing joins to end up with just one object. Set the Superview (not just the camera) to the mode you want. You can save multiple frames for a sequence of those Hardcopy prints. The documentation claims the program will pause between each frame printed, allowing you to cancel further printing; it didn't pause.

Disney Calls. Recording animations may not be a difficult process within *CAD 3D*, but it's not a quick process either. You begin by opening an animation file which saves the first animation screen as a full-screen Degas file (about 32000 bytes). Then, to create the actual motion, you move or alter the objects, move the camera, or select/deselect objects. Finally, you click on the recording icon to record the frame.

The screen will be redrawn for a Superview with each of those recorded frames. You can choose to have the Superview in either a draft or final version. The final version, with its more correctly drawn screen, is recommended for animations. Having each screen redrawn in final version is a time consuming process, but you are able to see each subtlety in your animation as you proceed. The animations may be recorded with the objects in any one of the four object modes (wireframe, etc.).

These animation changes are then saved in a file separate from your first full-screen file. The size of that file depends, of course, on the length of your animation and how dramatic the changes are which you make during the animation. Each frame saved shows the differences between it and the preceding one, so if there are only minor changes or if the objects are very small, the size of the save for that frame may be only a few hundred bytes or less. A somewhat major change could result in a save of 10K-12K or more. Changes which are too dramatic will be jumpy when animated. The amount of remaining free disk space is shown at the top of your screen, along with the memory used for the most recently recorded frame.

Words. The documentation goes 134 (about 5" X 8") pages and is enclosed in a three-ring binder. The tutorial section explains the tools and leads you through the program. It would have been help- ful if it had included drawings of the icons as they were initially being discussed, however, as I sometimes found it necessary to turn back a number of pages to a labeled screen drawing. Overall, though, it's a very acceptable introduction to the software. The documentation, of course, cannot cover every possibility with software this complex. Additional tips and suggestions are available on supplemental disks. As you become more familiar with the software, you'll be studying the work of others and becoming more comfortable as you try new ideas.

There's an animation recording tutorial, with 3D object files provided on the disk. You'll need to do the tutorial to create files for use in the *Cybermate* tutorial later. It's well worth doing, anyway, as several helpful techniques are used. A card-stock page is part of the package, showing the keyboard alternatives to mouse use. Nearly all of *CAD 3D* may be accessed through the keys and the stretch has been made to give them a mnemonic reference. Advanced tips and a bibliography are included. No index, though.

Putting it all together, then, you set up the scene by using the three view windows to place individual objects, rotate and resize, scale the horizontal/vertical for that view, and drag and join. This actual movement, resizing, and rotation of objects is done only in the three view windows. The camera window can be used to travel around and right through a scene for a single screen save or for recording your animation frames. The camera window cannot be used to actually move anything other than the camera (your view).

By thoughtfully using the tools, you could, for example, move separate planets in a solar system (doing this in the three view windows) while directing the camera for a stride right through that moving scene, much like a Voyager fly-by you've seen on NASA animations. The knowledgeable use of each tool will, in concert with the other tools, provide an amazing amount of flexibility and power.

Tom Hudson, the author of *CAD 3D*, is well-known for his attention to detail, his standards of high quality, and his concern for the user of his software. This v.2.0 is a well-designed improvement and follow-up to the popular (and still available) original.

Motion Control Accessory

Although the initial look at *CAD 3D* may leave you with the feeling that everything is there, it's possible to add that kitchen sink. By using desk accessories tied to the software, you can add other features to the program. This process is also available for other GEM software designed to take advantage of the potential.

Realizing that creating an animation within *CAD 3D* can be tedious, Hudson has written a motion control desk accessory and placed it in the public domain (CN ST Library disk 152).

First make your plans and use *CAD 3D* to create the objects. Then, using a word processor (F. Gregory Schneller's *Word 400* (CN June 1987) is included on the disk), create a text file telling *CAD 3D* how you want the ani- mation file developed. Once this text file is saved, call the motion control accessory within *CAD 3D* and select the control text file you created. The recording process will be directed by that desk accessory.

You can leave the computer alone, overnight if necessary, while the animation file is written to disk. It's important, of course, to make sure there's enough disk space available for the animation file you're letting the accessory create. It's not always easy to tell how much space you'll end up using, although experience will definitely help. The use of this accessory doesn't always end up being as easy as it may sound, though. You'll need to develop the objects and make your plans very carefully for the control accessory to be used effectively.

This 3D control accessory, *PD3DCTL.ACC*, is really an elementary computer language. Commands are available for the *CAD 3D* viewing operations, such as zoom, rotation, and perspective. Other commands control the actual recording and the selection of objects, either individually or in one of the four groups. Loop commands are also available. A disk file is provided as documentation, printing out to eight pages. Several example motion control animation files are also on the disk.

At the price of a public domain disk, owners of *CAD 3D* can't go wrong by adding this one to the collection. A commercial version, one with additional features to create more sophisticated animations, is scheduled for release this fall. Other desk accessories are also in the development stage, to further enhance the potential of the *CAD 3D* software.

More in the next issue on Cybermate Animation.

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ST WORD PROCESSING

A Look at the Current State of the Art

By Frank Cohen, President Regent Software

The July issue of *Current Notes* reported on the state of the world of Atari. The article gave a brief synopsis of the availability of word processors and indicated that *Word Perfect* (Word Perfect Corp.) is the program to wait for. In reality, there are many other word processors that are currently available or will shortly be available that will probably do more than *Word Perfect* at a lower cost.

Word processors have become the bread-and-butter software product for the personal computer industry. In the early 1980's, personal computers were considered to be a necessity to those people that felt they might be left behind in the computer revolution. This group of computer buyers bought their systems without a clear understanding of what they would use the computer for. The outside of the Atari 800 shipping carton showed a house wife using her new computer to keep track of recipes. Databases, spreadsheets, word processors and utility programs were still unknown, leaving most home computers as game machines.

In the mid-1980's several new pieces of software became available which gave the personal computer a wider audience. Spreadsheets are universally useful to managers and small businessmen. Databases gave small businesses the ability to develop applications that had previously only been available on main-frame systems. But, the most widely accepted piece of software is the word processor.

When the Macintosh computer began to command a significant portion of the personal computer industry, desktop publishing software became available because of the Mac's visual interface operating system and potential for complex graphics. A fusion between desktop publishing and word processing ocurred in which both types of programs began to share certain qualities. It is not uncommon to find a word processor that can print multiple-fonts or change type styles as most desktop publishing programs can do.

When the Atari ST was released with the GEM operating system, most potential buyers first saw the similarities between the GEM Desktop - mouse, drop-down menus, windows, etc. - and the Macintosh Desktop. The popular word processors on the Macintosh - *Macwrite* and *MS Word* - support the Mac's font and graphics handling capabilities. Why couldn't the Atari ST and GEM support the same functions?

Where is Macwrite ST?

The Macintosh operating system took several years to develop. The amount of time that Apple spent developing the Mac's visual interface was both expensive and exhausting. As a result of the development of the Macintosh, Steven Jobs, a founder of Apple, was forced to leave the company because the Mac had weakened Apple so much. However, the resulting Macintosh operating system was both powerful and complete.

The Macintosh operating system is oriented towards graphic applications such as desktop publishing, CAD (Computer Assisted Drafting), painting and word processing programs. The operating system has a vast library of programs that handle fonts and graphics. The result of all of Apple's work is an operating system that handles most of the font and graphics capabilities necessary to produce very professional applications.

The GEM (Graphics Environment Manager) system by DRI (Digital Research, Inc.) is an operating system originally developed for the IBM PC and compatible computers to implement a visual interface on these otherwise keyboard / command driven computers. The GEM system is comprised of three pieces of software: AES (Applications Environment Services), which handles all of the drop-down menus, windows, desk accessories, and other applications, VDI (Virtual Device Interface), which performs all of the graphic and font drawing functions, and GDOS (Graphic Device Operating System), which allows VDI to draw fonts and graphics on printers, plotters, laser printers, etc.

Rumors have it that one of the contenders for the Atari ST operating system was Microsoft's *Windows* program. At a later time, Atari decided on the GEM system and DRI wrote a special version of GEM to run in the Atari box. There are many problems with the ST version of GEM. However, none of these problems are too great for a good programmer to overcome (the problems are just annoying).

The GEM system can produce many of the same functions as the Macintosh operating system. However, the Mac has an advantage over GEM as the Mac operation system has a more complete set of commands and functions availabile to Macintosh programmers. The Mac's drawing ability appears to be better than GEM in speed and utility.

This brings us back to the question, "Why aren't there word processors like *Macwrite* and *MS Word* on the ST?" The answer has to do with several functions of the GEM system and the abilities of programmers developing software for the ST. The Mac word processors use a standard interface through which the user may use windows, fonts, a menubar, etc. to create a document that includes text and graphics.

Fonts

The GEM system on the Atari ST computer does not include GDOS, the part of the GEM system that allows you to print fonts and graphics onto a printer, plotter, etc. Although GDOS is a very small portion of the overall GEM system, without it, printing multiple fonts becomes difficult (but not impossible).

When GDOS is being used on an ST computer, a special text file must be included on your "boot" disk (the disk with which you turn on your system). This text file is called ASSIGN.SYS and contains the font names and sizes that you will be using while the ST is turned on. For example, suppose you want to use a font called SWISS in 14 point size (12 point is the standard size of typewriter printing). You would have to include the font file name in the ASSIGN.SYS text file. When your ST system is turned on, the SWISS font will be loaded into your computers memory for later use by the VDI and GDOS.

The problem with the GDOS system is that every font that is to be used must be loaded into the ST's memory when you turn on the computer. GDOS does not have the ability to scale a font to a different size. If you want to use the same SWISS font in a 12 point size, you will have to include another entry in the ASSIGN.SYS file. This limits the number of fonts you can use and seriously limits the amount of memory your system has to use.

The Macintosh allows you to load only the currently needed font data into the system's memory. Once loaded, the font resides in memory until another font is needed or your application needs some extra memory. The Macintosh operating system may also scale a font in memory. If a 14 point SWISS font is not available, but a 12 point SWISS font is available, the Mac will load the 12 point SWISS font and mathematically convert the font into the larger 14 point size.

The deficiencies in GEM make it more difficult for a programmer to develop an application like *Macwrite* for the ST. However, several non-GDOS word processors have been developed. *Hippaward* (Hippo Systems) developed a multi-font word processors shortly before going out of business. *Boffin* allows fonts and graphics to be used within a document.

Printer Support

Another problem that GEM faces on the Atari ST is the support of a vast number of different printers that have been sold to ST users. Most printers use their own special technique in printing graphics. A word processor for the Atari ST must support the popular printers (Epson, Panasonic, Citizen, etc.) Atari has promised support of most of the popular word processors by saying that GDOS drivers will be released when GDOS becomes available.

Printers fall into three categories: dot matrix, daisy wheel, and laser printers. Each type of printer has its own unique abilities and functions. For example, daisy wheel and most laser printers have the ability to change the amount of spacing between each letter in a document which makes professional kerning and micro-dot justification possible. Dot matrix printers offer multi-pass printing which increases the printing resolution to be even greater that a laser printer in some instances. The difference between an good word processor and a great word processor is the ability to handle all of these special printer nuances.

Another problem that must be overcome is the difference in aspect ratios between the ST's screen and a printer. State-of-the-art word processors attempt to display and edit a document as close to the finished printed document as possible. This ability is called WYSIWYG (whiz-e-wig), which stands for "What You See Is What You Get."

The Macintosh system was designed as an integrated computer and printer. The dots on the Mac's screen are the same size as the dots that may be printed on a Macintosh Imagewriter. Because the dots are the same size, any image that appears on the Mac's screen may be easily converted to the Imagewriter printer's resolution and printed.

The Atari ST is not so lucky. The ST supports three completely different screen resolutions (low, medium and high). In addition

to this, most printers used on an ST have a different aspect ratio (the size of the dots on the screen are not the same as on the printer). A programmer trying to develop a graphic word processor for the ST must also overcome this problem.

Fear not! Several companies have announced graphic word processors that hopefully resolve all of the problems mentioned above. Atari has licensed Microsoft's popular word processor *MS Word* for the ST, to be released as *Microsoft Write*. *MS Write* uses GDOS and supports multiple fonts and styles and the standard GEM interface (i.e. windows, menus, etc.) Regent Software is working on *Regent Word III* which will use its own RDOS software. RDOS allows you to display and print GEM fonts, of which there are more than 1500 fonts now available.

The WP Future

Where does all this leave us? Word processing products for the Atari ST are becoming more diverse as the user base becomes more specific in their needs for a word processor. With the release of *MS Write*, *Word Perfect* and *Regent Word III*, the home and business user will have several very good products to choose from. *Word Perfect* offers a number of powerful functions (e.g. thesaurus, outliner, spelling checker, etc.) while *MS Write* and *Regent Word III* will offer multi-font and graphic capabilities.

The lower-ended word processors will probably remain a choice between the existing competition: *Word Writer* (Timeworks) and *Regent Word II*. Both of these products offer basically the same functions and cost less than $55 through discount stores.

The high-end word processors cost more: *Word Perfect* will probably cost $140-$160 (although the list price is $399), *Microsoft Write* will probably cost $130, and *Regent Word III* will probably cost $100.

International software companies might also make a splash in the word processing market with products such as *1st Word Plus* (GST) which supports graphics, mail-merge and spell checking abilities. *Tempest* began as a text editor for programmers but is rumored to have grown into a full-blown very quick word processor. *Steve* (Pharma Data of Holland) is an incredibly complex word processor (300 page manual) which includes an integrated drawing program and database.

In summary, the home and small business word processor user has and will continue to have many choices available in ST software.

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MS-DOS ON THE ST: PART I

Cultural Shock for GEM Fans

By William Price

For those who have never used CP/M or MS DOS, the new IBM PC emulation facilities provided by *pc-ditto* are akin to cultural shock.

True, it does not support the mouse; so there's none of this laid back clicking on icons that characterizes the ease of use provided by Digital Research's GEM interface on the ST. But in the future, the mouse will be supported so that you can use the full features of GEM PC and Microsoft Windows. For now, it's keying commands and making all the syntax and typo errors that are the hallmark of a hunt-and-peck typist like myself. Frustrating is one reaction, but another view will recognize the power, versatility, and flexibility provided by a command language. GEM, despite its ease of use and convenience, does have its limitations.

Bill Teal, the developer of *pc-ditto*, is an ex-IBMer from the D.C. area. He has done a remarkable job in delivering a software emulator for the Intel chip. Hardware co-processing, ala the ATR 8000, is much easier to accomplish as well as more expensive. Developing a software emulator that performs like this one requires some real smarts. And you haven't seen all of them that Bill has. Apparently, he has a bundle of tricks up his sleeve that will raise a lot of eyebrows. So go all out to support this unprotected system. Else the effort will not be worth his time and we will not benefit from his clever innovations. If you like *pc-ditto* and don't own it yet, go out now and buy it! More goodies are on the way for its owners.

For those that have been initiated to MS DOS through the facilities of *pc-ditto*, I'll try to give some tips on how to get the most out of MS DOS on your ST. Mike Gibbons, elsewhere in the issue, will tune you to how and what *pc-ditto* can do. Putting aside the slowness of operation that is a consequence of emulation (and this will change), the ST offers several significant improvements over the IBM PC XT. First is the higher capacity 3.5" double sided disk drive that doubles the storage available on IBM's 5.25" drive. Second is RAM expandibility beyond the 640K offered on the PC. This and the disk capacity are severe limitations to running large systems like PageMaker and Ventura Publisher on the PC. The ST provides a better vehicle for operating both of these systems. Third is the ST's color monitor which is sharper and crisper than the standard IBM color monitor. And of course there is the difference in price. After running a few PC applications on your ST, it will really make you appreciate -- even be ecstatic -- about the architecture of the ST and what GEM really does for you. Now, let's get on with setting up MS DOS.

Discovery -- 3.5" Disks. MS DOS 3.2 was the first version to support 3.5" drives. These drives have only been recently discovered by IBM and are defined as High Density. The older 5.25" drives, standard on PCs until the advent of the PS/2 series, had a maximum capacity of 360K from 40 tracks, 9 sectors each, double sided format. With 3.5" disks, the maximum capacity is 720+ with 80 tracks, 9 sectors, double sided. IBM also provides a 3.5" Quad Density floppy drive with 1.2 megabyte capacity. A similar drive will soon be available for the ST from Diverse Data Products in Miami. Their drive is currently running with 1.4 Meg capacity, and sometime in the Fall, they hope to have a 2 Meg unit running with utilities developed by David Beckemeyer of *Micro-C Shell* fame.

DOS 3.2 & High Density Disks. Although MS DOS 3.2 can handle the 730K density, it must be configured for this format since the default is still 40 tracks for the 5.25" floppy. To do this, a CONFIG.SYS file must be created on your DOS 3.2 disk. When booted, DOS first looks for the presence of this file and tailors the system according to the parameters that are specified. To set up the High Density configuration, with DOS 3.2 in Drive A, type the following at the A> prompt (which is shown in the example). Commands are not case sensitive, so upper or lower case will do.

```
A> COPY CON CONFIG.SYS
DEVICE=DRIVER.SYS
DRIVPARM=/D:0 /F:2
DEVICE=DRIVER.SYS
DRIVPARM=/D:1 /F:2
[F6]
```

The COPY command creates a file called called CONFIG.SYS and then copies the ASCII text you enter on the CON(sole) -- your keyboard -- to this file. DEVICE= equates the disk drive to the utilities provided by DRIVER.SYS. The drive parameters are then defined for D:0 (Drive A) and in the last line to D:1 (Drive B). The F:2 parameter defines the format of these drives as High Density or 730K (80 rather than the default 40 tracks). The above format, punctuation and spacing is correct. There are no spaces before

or after the equal signs. But a space before the /F:2 switch is essential. There must be no spaces between the statement and the [Return] key entry. The last line must be closed with the [F6] or Function Key 6. This generates a Control Z [^Z], an End-of-File marker, executes the COPY command, and writes the file. As you are working with copying to CONFIG.SYS, you will discover that each time this is done, it overwrites the previous file -- it does not add to that file. Whatever you type must be the entire configuration set.

You can examine this file by typing the following at the A> prompt:

COPY CONFIG.SYS CON

This command copies the contents of the file (any ASCII file) to the CON(sole) which in this syntax position is the monitor. When CON is the subject, it's the keyboard. As an object, it's the monitor. PRN can be used in lieu of con to direct the file to your printer. But make sure it is on-line first. Sometimes DOS gets nasty with errors and may require rebooting the system. You can also use SHIFT * print text. This is an ASCII character print and not a graphic screen dump. Using CTL *[RET] will toggle the printer on and off. The asterisk must be the one to the far right of the keyboard over the numeric keypad. You may also use PRINT filename.ext PRN to direct a text file to the printer. Using TYPE filename.ext will display text in that file to the screen. In these examples, the file must be on the drive indicated by the prompt, otherwise the drive letter must be entered before the filename.

These newly created CONFIG.SYS parameters must be installed by the system, so simultaneously press CTL ALT and DEL to quit DOS. This returns you to the *pc-ditto* start-up screen where you press RET to re-boot DOS. Two messages should appear after boot-up to indicate that High Density drives C and D have been installed. C is Drive A, and D is B. DOS makes this equation and you continue to specify A and B in your commands. If you have a hard disk, identify it as E.

Formatting and Copying. With the system now configured, the FORMAT command will default to 80 tracks and 730K. This can't be used to format a 5.25" drive. (If this is a constant requirement, use only the first set of DEVICE= and DRIVPARM= statements for the CONFIG.SYS file.) If FORMAT B:/S is used, the 3.5" disk in Drive B will be formatted and the hidden DOS files in Drive A will be copied to the disk to make it bootable. The system takes over 64K of the available disk space. FORMAT alone will generate a disk with 730,112 byte capacity. The COPY command can be used to copy files to the new formatted disk. For example, COPY A:*.* B: will copy "all" files from Drive A to B, but not quite all. This command will not copy hidden files or sub-directories. Since two of the critical system files are hidden, they can only be copied with the /S switch on FORMAT or with the DISKCOPY command. Both also copy sub-directories, or in ST parlance, folders. The DOS 3.2/3.3 XCOPY command will also copy folders, but not hidden files.

At this point, let me apologize to some for being so pedantic. This detail is provided in the pages of Current Notes for two reasons. First, the Avant Garde instructions are not clear in some instances, and there are a few minor errors in the examples. It took me several hours by trial and error, and reading three DOS books to finally succeed with this configuration file. Secondly, I've been on the phone with four different perplexed STers walking through this sequence. If nothing else, this should help a few that are struggling and save a lot of time on the phone.

Single-Side 3.5" Drives. What if you have single side 3.5" drives? DOS only supports 40 tracks on a single side drive. It cannot format or read 80 tracks from this type of device. I recommend that financial priorities be adjusted to purchase double side drives or possibly try upgrading your drive by swapping out the SS mechanism for DS one. This can be done with the ST Epson drives -- the ones with an eject button on the lower right. However, this may not work with the Chinon or other type drives with the eject "tongue" under the disk slot. This style faceplate may prevent insertion of another drive mechanism. But do call some of the advertisers in Computer Shopper and other ST magazines to inquire. If double sided drives are a long shot, Avant Garde has provided a solution. Here's how to do it using *pc-ditto* utilities.

First you must make a single sided 40 track 3.5" disk which includes DOS. One method is to use a 5.25" 360K DOS disk to perform this function. To do this, go to the *pc-ditto* menu and define Drive A as EXTERNAL and then define the external drive as as 5.25". Your 3.5" drive will automatically default to Drive B. Booting DOS from the the 5.25" drive, format Drive B with the following command:

FORMAT B:/1/S

The /1 defines single side, and as you recall, /S copies the DOS system files to the formatted 3.5" disk. You will now have a disk with a capacity of 179,712 bytes. However, DOS 3.2 will take approximately 69K leaving 110,592 available on the disk.

(Continued on page 51)

AVANTE-GARDE'S pc-ditto

(Continued from page 13)

Notes PC library will carry a selection of top notch PD programs on 3.5" formats.

DOS & DITTO Survival Kit

pc-ditto emulates an IBM or IBM-compatible computer. But to use it, you must have the IBM Disk Operating System (PC or MS DOS). Where does the DOS come from? Well, you have to buy it. You will also need the DOS documentation as it doesn't come with *pc-ditto*. You should be able to get your dealer to sell you MS DOS. If the dealer can format a 3.5 inch DOS disk for you, then you are set! You get the operating system, the documentation, and with many of the MS-DOS systems, a working BASIC language and manual.

pc-ditto comes with a utility to format DOS disks called PC_DFMT.COM. I had some trouble with this format program, but if I got the message "Abort, Retry, or Ignore", I simply hit R for Retry a few times, and it worked fine. I had trouble trying to make single-sided DOS disks with the IBM DOS 3.2 format program running under *pc-ditto*. Even though I used the correct format switch, /1, it would format 40 tracks on both sides instead of 80 tracks on a single side. The program PC_DFMT.COM worked and made single-sided PC DOS Disks. Double-sided disks were never a problem on either utility. I also noticed a problem when changing from a double-sided disk in a drive to a single-sided disk. It would not recognize the drive file allocation table and sometimes I had to abort the program. To re-boot under MS DOS, you hold down the [Control], [Alt] and [Delete] keys at the same time. This brings you quickly back to the *pc-ditto* main screen before DOS was loaded.

If you are new to MS DOS, you have a whole operating system to learn, much more than could every be covered in a magazine review. However, it might help new users a bit if I explained some of the most-used MS DOS commands.

When you load MS DOS, it looks at the BOOT disk and loads two "hidden" files. A hidden file does not appear in the listing when you ask for a directory using MS DOS. However, if you look at the MS DOS disk under GEM, these two files are not hidden (although they are set to READ ONLY). They are placed on a DOS disk when it is formatted. During the boot process, MS DOS loads these two hidden files and then looks for the program COMMAND.COM. After it loads this command processor, it looks for a file named CONFIG.SYS, and then a file named AUTOEXEC.BAT. These two files are ASCII text files you create from the console or any word processor that can save the file in an ASCII format.

For example, you might create a typical CONFIG.SYS file from the console by entering the following lines:

```
A>COPY CON:=CONFIG.SYS [RET]
DEVICE=ANSI.SYS [RET]
FILES=20 [RET]
BUFFERS=15 [RET]
[F6] [RET]
```

The [F6] key sets an end-of-file marker, closes the file and writes it to the name you indicated after the copy CON:= statement. You can also use this method to quickly make up an autoexec or any other "batch" file. So when you see documentation instructing you to add something to your CONFIG.SYS file, you can use this method. Note that you have to type the whole file in, as it does not append to the original file but overwrites it.

If a filename has one of the three extensions COM, EXE or BAT, it is executable. When you enter the filename, DOS will try to load and execute the file. Any BAT file is an ASCII text file which can be created as above and is used to execute a series of commands (for example, entering the time, date and then running your favorite program at start up). COM and EXE files are similar to PRG and TTP extensions under GEM.

To format a new disk, use the FORMAT command. For example, "A>FORMAT B:" will format the disk in drive B. However, I suggest you use the *pc-ditto* program PC_DFMT.COM and follow the prompts. What could be easier? Of course, your MS DOS disks must all be formatted before you can copy programs to them.

To list the files on your disk, enter the DIR (directory) command. If there are a lot of programs, try "DIR /P" or "DIR /W" and see what happens. It is easier to see the display with these commands than with DIR.

To copy a single file, use the COPY command: "A>COPY A:PROGRAM.EXE B:PROGRAM.EXE". If you only have one disk, MS DOS will prompt you to insert disk B into drive A as needed. Wild card characters allows you to copy several files at once. For example, "A>COPY A:*.EXE B: " will copy all files with an "EXE" extension from drive A to drive B.

To copy an entire disk, use the DISKCOPY program on your MS DOS disk: "A>DISKCOPY A: B: ". Note that you can also use ST copy programs such as *PROCOPY* to copy complete MS DOS disks, although I have had some problems with single-sided disks.

To delete a file, use the DEL (delete) command: "A>DEL A:FILENAME.XXX" (any filename with its extension). Be sure to be careful using

wild cards or you can easily trash a disk. DOS will ask you if you are sure if you use a *.* wild card. You had better be sure or say good bye to all you files on that disk.

To view an ASCII file, use the TYPE command: "A>TYPE A:FILENAME.XXX". This will show the file on the screen. If is is long you can stop and start the file from scrolling with a [Control]+S toggle. You can use MS DOS to redirect the output from the screen to the printer by entering: "A>TYPE FILE.TXT >PRN". This lets you send an ASCII text file to the printer. Be careful in that if you try to send a file created with a word processor or an executable program, you may get garbage sent to the printer. I once unknowingly sent a file full of formfeeds to my printer and left my printer unattended. I found a nice pile of paper on the floor.

To MaKe a DIRectory, use the MD or MKDIR command: "A>MKDIR dirname". This creates a directory, "dirname", which is the same as a folder in GEM. Use up to eight characters to name your directory. To MOVE to a directory, just type "A>CD dirname". (CD is short for Change Directory.) This will place you down into the subdirectory or folder. Subdirectories can continue downward, but it is best to keep it simple and limit your subdirectories to only one or two levels deep. To get back to the topmost directory, called the ROOT directory, type: "CD\". This returns you up to the top directory much quicker than in GEM.

To remove a directory, first delete all the files in it, then move to the parent directory (the command "A>CD .." will move you to the parent directory of whatever directory you are in) and type RD or RMDIR (for ReMove DIRectory) and the directory name.

That's All or Is It?

This new adventure I promised you is just beginning. If you really want to have some fun, just invite that die-hard IBM neighbor over and boot up *Turbo Pascal* for him. I have been waiting a long time for a product like this, and based on this initial offering, I have every confidence in AVANT-GARDE SYSTEMS. GINNY and BILL TEAL run this small, Florida based company and I am sure they will continue to improve our ST libraries with quality products like *pc-ditto*.

[pc-ditto, AVANT-GARDE SYSTEMS, 381 Pablo Point Drive, Jacksonville, Florida 32225. (904) 221-2904.]

MS-DOS ON THE ST: Part I

(Continued from Page 49)

Exit PC emulation and boot your *pc-ditto* disk. From the directory, drag the two files PC_DFMT.PRG and PC_DDRVR.SYS over to your newly DOS formatted disk. This procedure may sound strange, but as both Avant Garde and David Small have previously pointed out, the ST and IBM formats are virtually identical. More on this later. Back to *pc-ditto* emulation. Boot your DOS disk containing the two transferred programs. Now you must configure the system by entering the following:

```
COPY CON CONFIG.SYS
DEVICE=PC_DDRVR.SYS
```

To execute this configuration, reboot the disk and enter: "ASSIGN A=C,B=D". Without the assign command, the special features of PC_DFMT will not be available. If you want to increase your techno-stress, enter this command with a space after the comma, or omit the comma and use a space only. Also, don't use ASSIGN on your standard DOS disk. It kills execution of the regular FORMAT command. DOS will not format an assigned drive.

To use these special *pc-ditto* utilities, after the A> prompt, enter PC_DFMT. This will present a menu screen where the UP and DOWN cursors move between menu items, and the LEFT and RIGHT toggle selections in each item. For those that have High Density support with DOS 3.2 or 3.3, these utilities will be of little value. But for those with single sided drives, this is your only hope. Identify your target drive as A or B (not C or D), and select 80 tracks, 9 sectors, 1 side. You may also elect to copy DOS to the disk you are formatting. Then press F5 to execute. Sometimes DOS gets cranky and doesn't recognize the drive. Just keep pressing an R for Retry and it will eventually execute. H when completed, it may not return to DOS; so a "warm boot" will be needed. When formatting • multiple disks, you may get "Fatal stack error". This one is indeed fatal, and a reboot from *pc-ditto* will be required. However, the above ASSIGN format should not produce this problem. The formatted disk will contain 362,496 bytes. With DOS 3.2 copied, it will leave 292,864 available -- the same as for a standard double sided 40 track disk. PC_DDRVR.SYS allows you to use this nonstandard single sided 80 track disk. Avant Garde has been sensitive to the needs of users with SS drives and has provided a solution that works. You're in business.

BARBARIAN

Game of the Month?

Review By Kurt Osterman

At the recent summer Consumer Electronics Show Psygnosis was showing off, much to the delight of the crowds, a new game called *BARBARIAN*. Although the game was demonstrated on an Amiga, they were quick to point out that this title would be simultaneously released on the ST, and that the two programs were nearly identical in both graphics and game play. I am happy to report that they were correct on both counts, except that, in my perhaps biased opinion, the graphics of the ST version are maybe a little bit better. *BARBARIAN* can best be described as an interactive cartoon where the player assumes the role of 'Hegor the Barbarian" in his quest through the underworld to destroy the evil crystal.

But before I get ahead of myself, let me tell you what you get for the $39 investment. When you open the box, you'll find a 15-page manual that contains brief loading instructions but is for the most part, the legend of Hegor. This novella, as it's called, reads fast and contains hints to help you on your journey. Also, a 16" X 27" poster of the original artwork by Rodger Dean is enclosed, as well as a quick reference card for game play. Finally, not one but two disks are enclosed. Although the game is contained on two disks, no disk swapping is necessary because before the game starts, the entire contents of the first disk are loaded into memory and then, after the user is prompted to place the second disk in drive "A", there it remains. This probably sounds like a long process (see Ed. Comment), but three nicely done graphic screens are presented along the way, so even the loading time is enjoyable.

Once it has booted, you see Hegor ready to enter the underworld and a strip of icons at the bottom of the screen. To control Hegor the player can use either the keyboard or the mouse or both at the same time. (There is some advantage to experimenting with these; occasionally you get a different "play" reaction.) I prefer to use the mouse and this is where the icons come into play. These icons provide for control over the direction Hegor is walking, running, to come to a stop, to attack someone, to defend himself, and to flee. Also the right mouse button toggles between a second set of icons which allows the player to pick up, set down or use an object he has acquired. The second set of icons also displays which weapons Hegor has, as well as a clock which shows how long you have been playing. The player can also simply click on the screen placing the arrow in the direction he wants Hegor to move, putting in a second "click" command after the first. The versatility of input shows how much effort has gone into the game.

Game play? Simply click on the "right arrow" icon and Hegor starts to walk to the right. If a ladder or staircase comes up, click on the appropriate directional icon and Hegor will climb or descend when he gets there. Sounds simple, huh? Well, it's not that easy. There are monsters and henchmen everywhere to do battle with. And if that's not enough, how about adding falling rocks and disintegrating bridges just to mention a couple of the obstacles you will encounter. Some of these obstacles may require some thinking, if not experimentation, to survive them.

All right .... All right. This is all great, but how does the game look and feel? *BARBARIAN* has excellent graphics, extremely smooth animation, digitized sound (mostly grunts), and responds well to user input. As an example of the detail of the graphics, the expression on Hegor's face changes from absolute confidence when walking into battle to pure terror as he squirts away, if you click on the "flee" button. Once you have lost all three of your lives, the screen flashes the percentage of the game that you have completed. Then with no arguing, you are returned to the beginning of the game to face the same hazards in the same places as before. There is no "save game" option in the program but the true challenge is to battle your way along to get just a little bit further, just a little bit better each time, which often involves new and creative strategies.

There are very few things I would criticize in this game, but if I were to "nitpick"... Well, the game works only in color. While the dazzling graphics would suffer in translation to monochrome, there are, indeed, a lot of those sets out there missing a superb game. Secondly, although the animation is outstanding, some times Hegor's feet distract you as they descend, missing the actual steps (I said I was nitpicking).

I highly recommend *BARBARIAN*. It is packed with action, yet has the feel of an adventure. Psygnosis is to be congratulated, "A job well done!"

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RELAX AND ENJOY

By Joe Kuffner, (c) 1987

ARCADE ADDICTION

Well? You say you're burned? Are you burned from too much glorious sunshine of this recent heat wave? How about from too much TV radiation from watching Iran-Contra hearings day and night? Or, as usual, do the burn lines this summer come from spending so much time working on your computer. If your reason is any of the above, then its time to Relax and Enjoy.

A brand new release, from Atari, is going to knock your socks off, literally!! I'll be taking a look at *ARKANOID*, the game that takes *BREAKOUT* into the third dimension. This program is so addicting, that those in the know, say that AA (Arkanolics Anonymous) groups will be popping up around the continent to combat this new, and potentially lethal (and very enjoyable) pastime.

We'll also look at my selection for PD-of-the-Month, *SUPER SENSORI*, a classic tone / memory tester that will have your family begging to give it a try.

ARKANOID

What can I say about the most addicting computer arcade game that I've ever played? Everything!! Hang on to your hat (and mouse) and enter the space warp from which you may never return. Welcome to *ARKANOID*, programmed by Imagine Software of Europe, and distributed by Atari.

The mothership "ARKANOID" was destroyed; you were left to defend yourself in these rounds of *BREAKOUT*-style challenges. 33 rounds of brick-smashing, ghost-busting, ball-chasing fun. All wrapped up in a superbly programmed, colorful, entertaining package. Playing this game is definitely what I call relaxing!

All you need, to enjoy this game, other than the program, is the basic color ST system. After booting the system, and clicking the mouse you're thrust into the very short history of how you ended up as the character in this game. However, *ARKANOID* is much too good a game to have to be bogged down with some contrived story on why you are playing. The simple fact is that you're addicted to it, or soon will be.

Using your mouse to control your "ship", actually more like a paddle, you control a bouncing ball. Keeping it in play, keeps the ball banging into bricks (thus eliminating them), scoring points, and knocking off your foes. You start off with a few lives, accumulating more with points and "pills" (I'll explain "pills" in a moment), with the object to seek freedom by getting through all 33 rounds. Well, I'll tell you right now, if you get to 33, let alone through it, you're the greek God of Arcadia, master of your wits!

You see, several factors are stopping you from completing your objectives. The first, and the most obvious, is your lack of coordination. As with all true arcade games, hand/eye coordination is a mandatory requirement. But what makes this game more fun (and also separates it from its grandmother, *BREAKOUT*) is the introduction of small amounts of luck and "assists".

Seven types of power "pills", which fall randomly on the playing surface, provide you with the extra tools and traps to get you through each round. These pills can provide you with a ball multiplier (light blue), a brick-blasting gun (red), a ball catcher (green), a "ship" enlarger (dark blue), a "slow-things-down" pill (yellow), and two very special assists: extra player (grey) and gateway to the next level (pink). With the exception of the last two, a little bit of strategy is required before "grabbing" the pill. By the way, these pills also distract you from your real objective - keeping the ball in play! As a result, you may find that they are not always assists but sometimes hindrances.

Working against you are the occupiers of the space warp. These "babies", although destroyed when hit by your ball, cause your ball to deflect in random directions. Keep your eyes on the ball!!! These intruders take the form of wizard-capped ghosts, rolling block balls (think about that one!), rolling ball-infested wire pyramids (you've got to look carefully) and last but certainly not least, colorful trios of balloons. All of them make genuine nuisances of themselves. One bright side of their existence is that they make wonderful scapegoats to cover up your own ineptitude! Also, the ball speeds up, the longer it stays in play. This speed has different effects in each round (that is, depending on when and where speed changes occur, it may or may not help you). At some levels, the ball simply travels so fast that closing your eyes actually helps!!!

If that isn't enough for you, read on. Other than being colorful, these bricks, on the three dimensional backdrop, have other characteristics. Grey bricks must be hit two or more times in

order to be destroyed. Glittering gold bricks cannot be destroyed at all. This fact makes it a requirement, that by the time you get to higher levels, you must have acquired enough paddle dexterity to "aim" your shots. Without this skill, luck won't help you one snipit!

I hope that you're getting the impression that this game is an animation and graphics paradise. It is. Even the backdrops contain outstanding detail (and hence distraction). More than once, I've found myself staring at the backdrop instead of watching the ball. Beware! Adequate sound effects and intuitive playing features round out the program's brilliant programming. The only minor drawback in the program is the lack of game-save feature. This forces you to to start at Round 1 each time you lose your final life! However, practice makes perfect. There is, however, a game pause feature (space bar) which allows you to take breaks for meals (yes, starvation forces you to step away from the game, periodically).

As a yardstick to your playing prowess, my top score is 263,410 at round 19. For newcomers, don't be discouraged if level 3 proves frustrating. A little later in this review I'll provide a couple of quick and dirty tips that should improve your game. I figure that if you get past level 5 you should consider yourself to be above average, similar to breaking 100 in golf, and well on your way to completing all the rounds. Do not interpret this to mean that the worst is over by level 5, because it certainly isn't. I'll leave it to you to discover for yourself.

Since everyone must get past at least the first three rounds to start having fun with the game (I guarantee you that you'll find Round 3 frustrating!), I'm going to list a few tips on strategy for your perusal:

Round 1: (a) Grab as many pills as possible. This will help your score and give you practice timing the fall rate of the pills. (b) Avoid destroying the grey bricks until all of the colored bricks are gone. This reduces the interference caused by the ghosts.

Round 2: (a) Use the Brown Maneuver (so named by its inventor). When starting the screen, line your paddle up under the 3rd brick from the right and release the ball. Leave the paddle in the same place for one more hit. This puts the ball above the bricks for maximum pill-grabbing time without the worry of chasing the ball! (b) Refrain from taking the multiplier on this level. Valuable pill-grabbing time is lost by too quickly eliminating the bricks.

Round 3: (a) Use the Kuffner Move (I wonder who discovered this one?). After eliminating the 1st 3 bricks, you can always enter the maze of bricks by starting at the right-hand wall and releasing the ball. Leave the paddle still and presto, on the second hit, it enters the maze. (b) Stay away from Early Blue Syndrome, or EBS, named by the inventor of the Brown Maneuver. There is no perfect time to grab the light blue multiplier. But, there certainly are lousy times. Show discipline and wait until you've cleared the first and second rows of bricks. The longer you wait, the better! (c) Take green but not Red. The catcher pill is very useful. The Red gun pill is totally useless!

General: (a) Don't always exit immediately after grabbing the pink! Although most forces are erased by grabbing a new pill, the gateway to the next level is not erased by pills. Only by loss of your player. (This strategy is not without risk!) (b) Always, and I mean always, go for the ball. Just like going for the body in Hockey! (c) Don't play for more than eight hours in a row. You might get fired - or divorced - or both.

I hope that you find this game as exciting and challenging as I have. This month's understatement is: I LOVE *ARKANOID*. When you go to buy it, buy two and give one to your best friend. Otherwise you may have to turn over your machine to him/her. Have fun. This one is definitely a BEST BET!

PD-OF-THE-MONTH

Even public domain games can prove addicting to a wide variety of users. *SUPER SENSORI*, a PD release from Magic Software of Europe, using compiled *GFA Basic*, provides the ST version of the classic memory game of lights and tones. The game was popularized by Milton Bradley in their *SIMON* series of toys.

Six colors and corresponding tones are sequentially played for you to repeat. You may select keyboard or mouse interaction. The game plays quickly and accurately. The graphics and colors are complimentary as is the music played during intermissions. The interface is so simple that you find yourself playing for hours, painlessly, yet with a certain amount of frustration. My best was correctly playing 21 tones in a row. A must-have program for your software library.

As you have probably noticed, this month's moral, so to speak, is that relatively simple concepts, coupled with excellent programming can prove to be enjoyable masterpieces that earn their way into your software library, whether they cost money or not. Relax and Enjoy, and welcome back!

DATATRIEVE

An ST File Manager

Review by John Barnes

File Management Software

I came away from Atarifest 86 convinced that the great majority of database users for the ST would be satisfied with a program something like *SYNFILE* or *FILEMANAGER 800+*, file managers for 8-bit Atari computers. These people do not need or want the power of *dBMAN* or similar programs, which implement some features of true relational database management software. The speed and capacity afforded by the ST are compelling reasons for upgrading to a 16-bit machine if you need to do a lot of database management.

A File Management program is used to maintain simple lists of the sort you would keep on index cards in a box. Examples of such lists include mailing lists (the big favorite), inventories, recipe files, and the like. Indeed, if you have no need to update the contents of the individual cards (records in computer parlance) and if you have no need to print out subsets of the data or to order it in different ways, you would be well advised to stick with the old-fashioned approach.

The Product

DATATRIEVE, from Data Becker via Abacus Software, should meet many of these needs. *DATATRIEVE* comes as a copy-protected disk with an attractive manual. ACA quoted me a price of $64, which makes it a relatively expensive package considering what it does. You can copy the program to a hard disk or a Ramdisk, but the original must be in drive A when you start the program up. The copy protection on the original is relatively effective. I understand that registered users can obtain a backup copy for $10. The original disk also includes several applications: a mailing list, an auto maintenance file, a stamp and coin file, and a recipe file.

For those who insist on GEM applications, *DATATRIEVE* is quite a pretty one. On the other hand, those who like to work with the keyboard when doing database management will find that many of the most repetitive functions in *DATATRIEVE* can be done with function or control keys.

You will want to make a working disk with your own desktop, folders for your applications, a proper printer driver, and perhaps a print spooler. Abacus supplies Ram disks of various sizes and they recommend using them, but I prefer to use RMDSK1 from the CN library and I install this together with a print spooler from an AUTO folder. A calendar and a calculator might be a handy desk accessories for those who can afford the memory.

Building a new application is not hard, but the canned applications are a big help in showing how best to realize the glamor of *DATATRIEVE*. The canned applications may well be enough for the user who simply wants to maintain a similar application.

Defining Your File

There are three parts to any application: The file, the queries, and the reports.

The record structure of the file is defined by a list of FIELDS that the user provides at startup time. The attributes (text, numeric, date) are defined when the field name is entered. Interestingly enough, *DATATRIEVE* does not seem to care about the length of a text field, so that the user is not really restricted in the number of characters entered in a text field. The records appear to be stored in a squeezed format so as to occupy minimum disk space.

DATATRIEVE stows each application in a folder of its own, which makes for tidy disk maintenance because you will create a plethora of files for report forms, printer and screen masks, etc. and it is best to keep each application separate.

I feel that *DATATRIEVE*'s lack of a Calculated field type is a serious drawback. *SynFile* possessed this capability and it let the user do certain kinds of simple statistical work and accounting. I cannot, for example, implement the Yacht Race Scoring application described in the December 86 *Current Notes*. People who need this functionality for Inventory Control, Subscription Fulfillment, or similar applications should consider using a relational database management product.

Advanced users are able to import records from another database into a *DATATRIEVE* file with a modest amount of ingenuity, so that conversion

of a list from one program to another should not be too difficult.

In *DATATRIEVE* you maintain the file by editing data records that are presented on a screen one record at a time. If records are to be updated you bring them up by using Search/Select criteria. New records to be added and modified records are dealt with with the screen in Input mode. The order and appearance of the fields on the screen can be controlled by editing a SCREEN MASK. A default screen mask is generated at file definition time, so that you do not have to worry about building a screen mask unless you want to. The editor for screen masks makes excellent use of GEM capabilities and you can make very glamorous forms.

Horizontal and vertical slider bars allow the user to expand the screen mask beyond a single monitor screen.

Mouse button controls on the file maintenance screen provide a neat way to move through the file and to control searching and selecting. There is a "gearshift" icon for toggling between Search/Select and Input modes that I find kinky.

DATATRIEVE lets you use four GEM windows at a time for record editing. This would be really nifty in a relational database, but I do not see much reason for it in a file manager, because there is no provision for sharing information between files.

Indices

Indices are used to facilitate file maintenance and query functions. Indices are also important at report generation time. The file management program maintains an ordered list of KEYS that point to each record in a file. This array of keys is usually RAM resident to facilitate speed in searching. Queries that use the key will usually be very fast.

DATATRIEVE does something really sweet with indices. It allows you to access the list in a window with a slider bar. This provides a very quick way to view the index, and retrieval of a record containing a given key is very quick.

Unfortunately, I have not found a way to cause *DATATRIEVE* to order records on a key that is a function of more than one index field. I find this to be a disadvantage because I often work with lists whose overall order is a function of multiple keys. This can be done while working with "Subranges", but I have not found a way to do it for the file as a whole. The *Current Notes* mailing list, for example, is often sorted by Club, then by member within Club. Good old *SynFile* could do this as a matter of course even if its speed and capacity were limited.

Query Functions

DATATRIEVE allows the user to pull up records that match certain selection criteria in a couple of ways. First, there are the indexes. These can be used, as mentioned previously, to point to any record or group of records. The subrange function allows the user to restrict the range of records that he is working on within a file. I have not yet found an easy way to create a new database consisting of records meeting certain selection criteria, as would be done, for example if the circulation manager for *Current Notes* wished to send AURA a database with only AURA members on it.

Report Generation

Reports from *DATATRIEVE* take two forms, lists and printer pages. The user defines the format of these outputs using appropriate mask editors. These are rather inelegant, but functional. The mouse is used to define column widths and field placement. An additional page layout menu must be used to complete the definition of printer masks.

DATATRIEVE's report generation capabilities seem rather inflexible. I do not, for example, find a way to generate "two-up" mailing labels. This may be asking a lot because I had to write an application program to do this from *dBMAN*. Most on line report generators share this problem and you may want to consider a database system like *dBMAN* or *REGENT BASE* that provides an application writing language. In the *SYNFILE* days I wrote the data out to an ASCII file and then operated on that with a BASIC program.

Files in ASCII format for mail merge and table input to word processors can be output to disk using the PRINT FORM or PRINT LIST options. This might also be a good way to create modified databases. The screen option for viewing the output of these commands is very handy.

Modifying the Database

DATATRIEVE is a little unusual in that you cannot delete or rename fields. Therefore, if you wish to modify the record format of your file for some reason you will be faced with a good deal of work. *DATATRIEVE* also cares a great deal about the order in which you entered the field names during the definition phase. If you find that these things are creating problems you may wish to print the file to disk using an appropriate report form and then use the Read Text File option to import the data into a

revised file. I consider this approach awkward compared to the procedures in *SYNFILE* or *dBMAN* for modifying a database.

Documentation

The 120 page booklet that describes how to use *DATATRIEVE* is not a good description of the product, it is not a good tutorial, nor is it a good reference work. What text there is is well written, but it seems largely confined to describing options on the pull-down menus and those descriptions are often terse, lacking adequate examples. There is, for example, an intriguing item under "Other Block Operations" about copying between two files, but I could not make enough sense of it to try it. The developers of GEM based programs seem to feel that the screens tell everything and I am waiting for them to learn that people also want to understand what they are doing.

Conclusions

As a sophisticated user of ST database management techniques I would not take *DATATRIEVE* seriously. If I had to set someone else up with a simple system for maintaining a simple list I might consider using it for the pizazz of its data entry forms and its relative ease of use within the GEM environment. I would, however, like such an application to be closed, so that the user is kept to a straight and narrow path with minimum distractions.

My feelings about this product can be summarized by comparing with some Hollywood actresses: lots of glamor, short on sex, and a disaster in the kitchen.

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ATARI BOOKSHELF

ST PROGRAMMING BOOKS

Review by Pamela Rice Hahn

I do not consider myself a programmer. I am a dabbler. And, I'm very curious. I want to know how and why things work. Not mechanically. In my opinion, that's for the techies. I enjoy examining a program's (programmer's) logic. To a certain extent the code reflects the programmer's personality. (There are easier ways to study human nature, I know; but, I'm ecentric by choice. At least in this instance.)

So, rather than considering myself a full-fledged programmer, let's just say I'm a modifier. Trial-and-error and assistance from my ever-present reference library help make these modifications possible. This month we'll take a look at two such "reference library" books.

COMPUTE! ST Programmer's Guide. This book is an amplification of the documentation that comes with the ST. As such, it covers a broad area: ST BASIC, Logo, GEM/complete with C program examples, and TOS. Unlike the COMPUTE! book reviewed in the May '87 issue of *CN*, at publication this book contained all original material.

The first three chapters are devoted to learning to program in ST BASIC. "An Introduction to ST BASIC" is just that -- a concise 15-page overview of the language. In this case, however, don't let the number of pages fool you. COMPUTE!'s editors pack a lot of information in these pages. Not only is it easy to comprehend, but this intro is so much simpler than wading through Atari's muddled ST BASIC manual. These few pages provide enough information to allow the novice to either begin LOADing in PD examples (from the CN library, of course) or to start writing his own simple BASIC programs. Chapter 2, "BASIC Keywords", contains explanations of the (alphabetically-listed) keywords used in ST BASIC. Examples are given showing mandatory parameters and syntax. Chapter 3, "Writing Your Own Programs", walks the user through typing in the variety of programs given in the book, gives the novice the instructions necessary to SAVE then RUN those programs, and then explains how the program(s) work.

The next three chapters cover Logo: "Logo Programming Concepts", "Logo Primitives", and "Creating Your Own Procedures".

Chapter 7, "Introduction to GEM and TOS", is an introduction to the routines that make possible the ST point 'n' click ease-of-use that most of us already take for granted.

Chapter 8, "Writing a GEM Application", explains the steps necessary to make a window, adding a desk menu, and creating a desk accessory shell. Because parts of GEM are written in C, examples are given in that language. C also provides a compromise between the ease of understanding afforded by BASIC and the speed possible using machine language. While this chapter does explain the steps used in these examples, some knowledge of C is assumed.

The "Appendices" comprise the next 61 pages. Appendix A displays the ASCII codes and their equivalents. Appendix B is an explanation and listing of BASIC Error Messages and Appendix C explains Logo Error Messages. Appendix D provides a sampling of software and hardware manufacturers supporting the ST. Appendix E explains and lists selected GEM VDI opcodes.

Finally, this book has one of the best detailed indexes I've seen. Instead of just containing a few random selected keywords and then generating the multitude of numbers that refer to each and every time that word is even briefly referred to, this index (so far) seems to be complete. For example, check out 'variables' and you'll find "variables, BASIC 7-10" as well as "variables, Logo 135-136."

The only complaint I have regarding a possible source of confusion is that on pages 3 and 104 the book assumes TOS is still RAM-based; however, by page 245 the book recognizes that TOS can be either/or.

As a final added bonus, this book is spiral bound. COMPUTE! BOOKS has managed to impress me again.

[COMPUTE! ST Programmer's Guide, COMPUTE! BOOKS, P.O. Box 5406, Greensboro, NC 27403. 919/275-9809 ISBN/0-87455-023-8, $16.95. 356 pages.]

ATARI ST Programmer's Guide. The first 153 pages of this book duplicate the 153 pages of text in the ATARI ST User's Handbook by the same author and reviewed last month. The substance in this book is on the remaining pages. The last chapter, Chapter 10, "ST BASIC Reference Guide", is an alphabetized listing of the keywords and their commands, operations, and functions. Definitions and examples, syntax, and (mini) program samples are given.

The four previous chapters -- "Introduction to ST BASIC", "BASIC Programming Concepts", "File Handling", and "BASIC Graphics" -- are all well written. The author's tutorial style is not only

easy to understand, but the examples given are usually also accompanied by illustrations of example screens. This approach, used often in ABACUS books as well, not only facilitates understanding of the subject(s) being presented but also means the reader doesn't necessarily have to read this manual while seated in front of a computer to reach that level of understanding. Since I never go anywhere without taking along something to read (unless it's a quick trip to the front porch to retrieve the morning paper), I really appreciate this feature.

It's too bad, considering the quality of the material in chapter 6-9, that I really can't recommend this book. If Weber Systems had omitted the first 153 pages and published the last half of this book under its present title at $9.95, I'd endorse this book and call it a bargain. Since they didn't, it's my opinion you can find better ways to spend your $17.95.

[ATARI ST Programmer's Guide, by Gilbert Held, Weber Systems, Inc., 8437 Mayfield Road, Chesterland, OH 44026 216/729-2858. ISBN/0-938862-79-0, $17.95, 351 pages, Index.]

ELECTRONIC COMPUTER PROJECTS

Review by Carl C. Hahn

Some new houses are controlled by a computer. A group of engineering students build a robot. Have you wanted to try something like that, but were in awe of electronics? Then I have news for you....

This new book from COMPUTE! won't tell you how to control your house, or build a robot, but it will give you a chance to see your computer in a new way. If you have an Atari 400/800/XL/XE, you should find something of interest. The book contains enough information to give an amateur the confidence to try something that sounds difficult, providing some good information about your computer as well.

The Preface tells you what tools you'll need to get started. The list isn't long and your supplies won't cost much. You probably even already have some of the items. It also explains how to solder so you get a good connection, but most of the projects don't require a lot of soldering.

There are 182 pages including a good Index. The book is even wire-bound so it will lay flat while you work. There are a lot of illustrations and diagrams. The reading is easy to understand, and tells you just what you need to know.

Once you add a component to your computer, you need a program (application) to make it work. DOS is a good example of an application. Without DOS your disk drive is just an expensive paperweight. This book includes the application that you type in for each of the projects. COMPUTE! also knows people have trouble typing programs from a listing, so they have included a program called "Proofreader" to check your program typing. When you type "Proofreader" the first time be sure you SAVE it!! If you RUN it, it merrily installs a machine language routine and vanishes.

Each project is provided with a list of parts (complete with the appropriate Radio Shack part number) you will need. This way, not only do you know you have the right parts and can pick them up in one trip to the store, you can also check the catalog in advance so you know how much money you'll need to take with you.

Although it starts with a brief explanation about how your computer works (bits, and bytes, and switches), by page 9 you are ready to start your first project: a simple Logic Probe. While you follow the instructions, you learn about resistors. Then you build a connector for your joystick port, type in an 11-line program, and use the logic probe to check which pins have current. Since you are working with current from the computer, there is no danger of electrical shock.

The second project is making a simple joystick in a plastic box (Radio Shack), with five switches for up, down, right, left, and fire. This one requires more soldering, but gives you a lot of experience. You can also build a gravity joystick with mercury switches, if you want. Next you make some paddle controllers, and test them on your computer.

Each of the projects and subsequent applications get more and more complex, but each builds confidence. You also get experience in using a solderless breadboard for your circuits. You can begin wire wrapping the connections, which makes it possible to take your projects apart and reuse the breadboard.

Since we are only up to page 45, I'll fast forward through some of the next projects. There's an Analog Light Sensor using a photocell, and a Light Pen using a phototransistor and a NAND gate IC.

How about making a Variable Digital Light Sensor (to tell when someone opens the refrigerator door), or a Digital Light Beam Timer (to time slot cars as they circle the track)?

You learn how your computer can send signals to the outside while you build an Electronic Switch. Using the information from the joystick,

digital light sensor, and electronic switch projects, you can even build a Burglar Alarm.

You learn about Digital Logic and how to make a Better Logic Probe. There's a chapter that shows how you can build on the earlier projects, with diagrams and pictures.

The last chapter is about Robotics. It does show how you can control one motor (such as raising and lowering an arm) with a computer program.

This would be a good book for a Father-Son team. Most of the projects can be completed in a couple of nights, including typing in the programs.

[ELECTRONIC COMPUTER PROJECTS for Commodore and Atari Personal Computers, by Soori Sivakumaran, COMPUTE! BOOKS, P.O. Box 5038, F.D.R. Station, New York, NY 10150, ISBN/0-87455-052-1, $9.95.]

MUSIC, MIDI, and YOU

By Grant Slawson (c) 1987

MICHTRON'S SUPER CONDUCTOR

Hello again from the world of midi! Since I received so many phone calls on my Dr. T KCS article in the April CN, I decided to do a review on another sequencer, MichTron's *Super Conductor*.

To begin, I want to point out that this sequencer uses an entirely different system of recording and editing than does any of the DR. T or Hybrid Arts software. It took me a little longer to get comfortable with this system than with the other sequencers I have used. My belief is that Michtron has tried to make this package a musical version of a word processor rather than a word-processing-style recording studio. I find this difficult to deal with since I have spent years writing music measure by measure, rather than block by block, but I think the folks at Michtron have found a way to make music editing for the non-musician a feasible reality.

The GEM-based program consists of recording and editing sections, with all the facilities of a good word processor at your command. Recording on any of the 16 tracks is the same as other sequencers: selecting tempo, time signature, and quantization amounts, and playing in "real-time" to accomplish the recording.

At this point the similarities between *Super Conductor* and most other sequencers end. *Super Conductor* is based on the principal that most music is made up of repeated "blocks" or patterns, and therefore does its recording in this manner. You then string together all the blocks that have been recorded to form a song, much the way you would put tracks together in other sequencers. On the surface it appears to be similar to other programs, but the blocks that are recorded are not broken down by measures, or any other visible means of seperation during the recording process. This style of recording basically demands that the user record in small blocks, in order to make editing a reasonably painless task. This also provides a much easier method of recording for the person who wants to tinker with music, but is not driven by the need to produce the next *Weekly Top 40 Countdown Hit.*

A quick glance at the manual reveals a well-written and comprehensive document which makes it very simple to achieve positive results in your first recording effort. Michtron has taken care to include features found on more costly sequencers such as the ability to configure synthesizers for a particular song by building files in the System Exclusive section using the word processor of your choice. This enables the user to send a single patch (sound), a bank of patches, or patches and special performance data to all the instruments in the system from one keystroke. This is very handy for performance of material, and especially useful if the user has a number of synthesizers with limited patch memory. They also include a section for using the internal speaker in the ST monitor as a 3-voice synth. You can even alter the sounds that are produced by changing the envelopes for the voices from within the *Super Conductor* program. The use of the internal speaker can be very handy for those with the desire to experiment with musical recording and editing, but don't want to incur the expense of a synthesizer right away. A very nice feature I must admit.

The options available in *Super Conductor* looks much like our trusty word processor: Record Block, Delete Block, List Blocks, Mix Blocks, Copy Blocks, Split Block, Filter Block, Transpose Block, Quantize Block and Edit Block. Note the Filter Block and Split Block options, as these are very interesting features. Filter Block allows the user to eliminate certain types of data from the block both during and after recording. Velocity, pitch and other control-type changes can be selectively eliminated from the block, leaving the rest of the data unchanged. Split Block lets you take one block of data and chop it up into smaller blocks for easier editing or in case you forgot you wanted two seperate brass parts and got carried away with your brilliant performance and the block ended up twice as long as the rest of the tune.

What about the editing screen? I should point out that while this program does not list by the measure, it does list by the bar (not the local tavern type of bar). Bars and measures are synonyms in the music world, but while other sequencers give a listing of the measures (or bars) as you record and playback, *Super Conductor* only lists the bars when you enter the edit screen. I consider this a drawback as there is no visible means to determine where a mistake may have been made while you are listening to the playback of the block. The only way to keep track of where you are is to count the measures as they go by, a practice which you will soon learn to dislike. Again, keeping the block to 2 or 4 measure size will make this problem unnoticeable, but I for one don't want my blocks of creativity to be limited by the tedium of editing.

The rest of the editing is done by the block in a Bar/Beat/Click format, with each beat or click being divided into 96 parts. This nomenclature sets up the editing screen to look like a directory for a file inside a folder, inside a folder, inside a folder! As I mentioned earlier, Michtron seems to be appealing to the experienced computer user-novice musician market. The event of a C♯ played on the first beat of the first measure and slighlty behind the beat would look like this:

C♯:061 v64 00001/001/024 off:v064 00001/002/48.

A C♯ with the numeric value of 61 was played with a velocity of 64, 1/4 of a beat into the first beat of the measure, and held until the middle of the second beat, when it was released with the velocity of 64. In "normal terms", a C♯ with a value of a dotted eigth note was anticipated on the upbeat of one. I hope this example will demonstrate my point about this program. I'm sure I lost alot of readers with my "normal terms" description, but those same readers probably can understand the numerical values set up in the example.

Something else Michtron has included is a COMPLETE midi implementation chapter at the back of the manual which includes a list of the most popular midi instrument manufacturers and their identification and source codes. This is to facilitate usage of the System Exclusive Editor in the *Super Conductor*. It's a good thing they give you this information, as you could wait until Washington D.C. gets snow in August before wangling these codes from the instrument manufacturers themselves.

Super Conductor was a difficult program, (or utility as it is called by Michtron), for me to review as it is not the style of sequencer I was accustomed to using. I find the basic recording premise simple to use and perfect for someone desiring to chain short sections of ideas together to create a song, but I find the editing facility tedious and verbose in its structure. I prefer an editor that lists everything in seperate columns like the KCS or Midi Recording Studio, but I am also used to that format! I think the editing facility can be easily learned by anyone using a sequencer for the first time, and I think Michtron should be applauded for making the musical capabilities of the ST a little less forboding to the non-musician.

The program did crash on me twice during my usage, once locking me up in my "load file" window, and the second returning me to the desktop. I won't profess it may not have been user error, but it seemed that the program was a bit buggy, and had some occasional problems coping with the onslaught of information that midi is capable of delivering. The program retails for $99.00, and is in a price range that is between the Dr. T *Midi Recording Studio* and Hybrid Arts *E-Z Tracks* on the lower end (approx. $40.00), and Dr. T's *KCS* ($199.00) on the upper end. That is not to say that the less expensive items are lesser quality, they are just different in their approach.

I liked *Super Conductor* and the approach Michtron has taken towards Midi recording and editing. Even given my personal biases toward the editing style, I recommend this program to anyone desiring to get involved in music, but not stray too far from their familiar ground of word processing, data bases and programming. The $99.00 price tag is a little stiff in the Atari world for a program to "dabble" with, but the smart shopper should be able to find a good deal on it.

Coming Next Month. Dr. T has sent me all new updates of their *KCS 1.5* and it is wonderful, as is their user support program. I always get a fast response to my calls, and the right answer to my problem, and a complete update on their product line each time I call. Next month I will be reviewing the 1.4 version of their *Copyist* which I demo'd at the June Novatari meeting, and I'll see you all at the Midi room at the Atarifest in October.

TRUE BASIC? WHAT? ANOTHER BASIC FOR THE ATARI ST?

(And a very, very good one, too)

Review by Andrzej Wrotniak

Look, what is going on: everybody seems to be writing BASIC for our computer! After the original *ST BASIC*, we've had *LDW BASIC*, *Fast BASIC/M*, *Fast ST BASIC*, *SoftWorks BASIC*, *GFA BASIC*, and some others - do we need yet another implementation?

Yes, I think we do. This one. Here is why.

The BASIC Family Tree

Advocates of the structured approach to programming compare BASIC to the Communist system: you may try to "improve", or "reform" it, but it will always remain a kludge.

In 1975, Edsger Dijkstra (co-author of Algol and a big name in computer languages) wrote:

> "It is practically impossible to teach good programming to students that have had a prior exposure to BASIC: as potential programmers they are mentally mutilated beyond hope of regeneration".

At least some things can be said in BASIC's defense: it can be implemented on machines with very small amounts of memory (remember the times of 8K number crunchers?) and it is easy to learn.

Now, times are changing. Memory is cheap and simple does not have to mean primitive or harmful (would you mutilate your child mentally "beyond hope of regeneration"?).

Since 1964 (when BASIC was first introduced), many new dialects have been introduced. More recently, a number have claimed to be "structured". These claims are usually exaggerated (like "glasnost"): the implementors throw in a couple of new language constructs, as IF...THEN...ENDIF, or WHILE...WEND, and announce a programming revolution to the world.

Structured syntax alone does not make a structured programming language, which needs also a well-designed procedure/function formalism (local variables, passing information via parameters), and - preferably - the concept of modules (as in Modula-2 and Ada).

These features allow us to build our own libraries of subroutines, which later may be accessed from any program as "black boxes". Do you need to know how the LOG function (or a CD player) works inside? As long as it returns the logarithm of its positive argument (or the music), it does its job and that's all you care.

All right, but can we eat our cake and still have it? Can we allow for democracy and still have a one-party, centrally-planned state? Can we have a really structured BASIC and still be able to learn it in two hours? Enter *True BASIC*.

True BASIC Standard

Do you think that listening to opinions like Dr.Dijkstra's is fun? Twenty years after inventing the original BASIC its authors, Messrs. Kemeny and Kurtz, rolled up their sleeves and went back to the drawing board. In 1985 the standard of *True BASIC* (registered trademark of True BASIC Inc.) was published, and in 1987 we have implementations for the IBM PC, Apple MacIntosh, Commodore Amiga and, now, the Atari ST.

Yes, the code is portable between all these machines (including sound and graphics), and more: *True BASIC* claims to be compatible with the proposed ANSII standard (Dr.Kurtz was the chairman of the ANSII committee).

And the standard itself is very, very good. It sets not only general syntax, but also graphic commands, standard libraries, modular features and - last but not least - the programming environment (with extensions possible for particular machines). Let me give you a guided tour.

Syntax and Standard Functions

Most recent BASIC dialects have a decent set of control structures. Still, *True BASIC* looks here as good as (or better then) anything else. The IF construct has the advanced form: IF.. THEN.. ELSEIF.. ELSE.. END IF. The DO... LOOP may have a WHILE clause on the top, or UNTIL at the bottom (or none, or both), and EXIT DO may be used for jumping out of the DO scope. There is a SELECT CASE statement (like CASE in Pascal), and - of course - a regular FOR loop (with EXIT FOR for jumping out). Efficient, readable and

consistent control structures: Pascal and Modula-2 could borrow some.

The GOTO statement may be used only when the program is written using line (optional, not recommended and included only for compatibility with old BASIC code).

Arrays can be easily re-dimensioned and manipulated; there is a whole family of powerful - if you need them - matrix and vector handling statements.

Standard functions: you'll find all you would expect and then some. Among those: Round(x,n) - round x to n decimal places, Eps(x) - the largest value negligible when compared with x (more useful than it may seem!). Time, Date and about 50 others.

String handling is good, too. In addition to a comprehensive set of string functions, there are sub-strings, which may be used on both sides of an assignment (much like in Sinclair Basic or VAX/VMS FORTRAN).

Graphics and Sound

True BASIC was designed as a machine independent standard and as such cannot make any explicit use of GEM VDI. GEM AES features (standard GEM windows, menus, alerts and dialog boxes) also could not be included (see below for more on this subject).

Most users will not miss those, as *True BASIC* includes a good number of well-designed graphic primitives for plotting points, lines, boxes, or ellipses, filling them, setting up colors etc.

Graphic operations take place in windows; if you do not care about windowing, the better: a default full-screen window will be opened for you. Coordinates are resolution-independent; you may, for example, specify that your window ranges from -100 to 100 and from 0.5 to 1, and then refer to all the coordinates in these terms. In other words, you do not have to recompute everything from the coordinate system in which your problem is stated to the screen pixel coordinates; this work is done by the system.

Another feature - quite unique - is a PICTURE, a kind of graphic subroutine. Thus, the code between a PICTURE header (with name and optional parameters) and END PICTURE defines an object to be drawn. Actual drawing takes place during the picture invocation: DRAW PICTURE with name and parameter values. But wait, only now we get to the real fun: the invocation may be supplied with one or more clauses, defining change in scale, position shift, rotation or slant. This is a very powerful tool and easier to use than to write about.

A necessary degree of mouse control and tracking is provided, as well (checking the position and button status).

The sound control is only rudimentary (for the sake of portability, among others), but very easy. The PLAY comand takes a string, specifying the notes (and their values), as e.g. "B2EGB4". Alternatively, with use of the SOUND command, the frequency and length of the sound can be explicitly specified. The sound can be played while other instructions are being executed.

Functions, Subroutines, Modules

As I've stated above, syntax does not alone make a good language. In painless design, coding and maintenance of large programs, modular structure is what makes the difference.

True BASIC allows for writing user-defined functions and procedures. And by this I mean real ones, not a poor substitute frequently met in many "street BASICs" (to use the derogatory terminology of Messrs. Kurtz and Kemeny).

External procedures and functions are introduced, placed below the program's END directive or even in separate files, so that they constitute independent entities and can be invoked from different programs. Their local variables cannot be accessed from outside; all information is passed to a function, or to and from a procedure, via its parameters, which can be simple variables or arrays. If necessary, variables in non-external subroutines or functions can be also isolated from outside by declaring them as LOCAL.

Procedures and functions may be kept separately in (source or compiled) library files.

And now I'm getting close to the beef: modules. Briefly, a module is a set of subroutines and functions (plus initialization code, which will be executed just once). Some of them may be hidden from the outer world. Similarly with variables: some of them may be hidden inside individual procedures or functions, same shared between them, and some - explicitly - made accessible to the other modules. You are in full control.

You may not need this feature. Not now. But sooner or later almost everybody who programs will. Modular structure makes a difference between hacking and programming.

True BASIC Environment

True BASIC is something between an interpreted and compiled language. Invoking the RUN command will cause a quick translation of your source program into some kind of intermediate code, which only then will be executed. Syntax errors are detected at the translation stage.

This way the user has the ease of interactive editing, running and debugging, but also the speed of a compiled language. Files can be also compiled separately and stored in compiled form, but this does NOT result in executable stand-alone programs (as in case of Pascal or C).

The system uses three windows: edit, command and output. Mercifully, the windows are designed much better than in *ST BASIC*, thus being a help, rather than a hindrance. The GEM-based editor is slow, but convenient to use. You may use the mouse, but only if you wish: every option is accessible from the keyboard. For typing in longer programs any ASCII editor may also be used.

The system commands are also dual: menu- and keyboard-driven. In addition to on-line help, a couple of powerful extensions were added here. First, SCRIPT files. Enter SCRIPT-filename and the file will be interpreted as a series of *True BASIC* system commands. Second, DO files. These (written themselves in *True BASIC*) take your current program file as input and do to it whatever you've requested. In other words, your BASIC system may be to some extent customized (carefully!) by yourself.

Some DO files are included for adding and removing line numbers and for line re-numbering. Another one does program reformatting: indentation, capitalization of keywords etc. The source code is supplied, as well, so you may (carefully, again!) customize them to your liking. The sky is the limit.

ST Implementation

The *True BASIC* for the ST comes on a single one-sided diskette. It contains, in addition to the BASIC compiler/editor itself, a folder with DO files, another with HELP files (you may add anything there, undocumented but works!), a folder of example programs, and yet another one with some extra *True BASIC* libraries.

The libraries are no big deal, as with the excellent modular features of *True BASIC* you will be able to create your own libraries easily. On the other hand, the libraries are (with one exception) in the source form, so that they may be used for learning the ropes.

One library, however, deserves special attention. It contains the ST-specific, low-level bindings to VDI, AES, DOS, BIOS and XBIOS - all the raw and unharnessed power of the ST. These are provided with use of the Chinese restaurant approach: calling by numbers (Combination number four, please...), after previously setting up appropriate global arrays. Nine different PEEK and POKE routines are supplied to make it feasible.

This approach was used in the original *ST Basic*; many of the published examples should even work here. Still, using GEM from *True BASIC* is a pain. Luckily, for most uses you will not need it, as you may do graphics without any explicit reference to GEM.

The situation can be, however, easily remedied. For each particular GEM use you only need to POKE your way through once, enclosing the resulting spaghetti (or lo mein) code into a high-level library procedure.

On the other hand True BASIC, Inc. is selling "The Developer's Toolkit" - a library of high-level GEM VDI and AES procedures for GEM windows, menus, alerts, etc. My friendly Atari dealer does not have it yet, but let us hope.

Documentation

The documentation consists of two readable and well-arranged volumes: a True BASIC Reference Manual (published by Addison-Wesley in 1985 and machine-independent) and the True BASIC Atari ST Guide, fresh from the oven. Together more than 400 pages of well-written text, although the former noticeably better than the latter.

The ST Guide contains, in addition to the Atari-specific information, the updates to the language standard - first of all the concept of a module, which seems to be an addition to the original True BASIC (and a very welcome one). It would be nicer to have all machine-independent information in one volume, and only Atari-oriented one in the other, but let us not be too picky.

Performance

I've played with the Atari *True BASIC* for just five evenings now, having written in it a part of a statistical library package with some graphic utilities. All things seem to work as documented (with a single exception: the STARTUP.TRU file is not automatically executed upon entering *True BASIC*, but this is a very minor flaw). This is a vast improvement from the times of "great compilers with not too many bugs". Still, I need a month or two more to be more convinced.

In the case of BASIC, compiled or not, I wouldn't pay much attention to the program execution speed (unless it is really slow). Nevertheless, I ran a simple benchmark to compare the *True BASIC*, *GFA BASIC*, and *ST BASIC*:

* Evaluating of EXP(SIN(SQR(x))) with x ranging from 1 to 200 (in radians): ST 0.93 sec, GFA 0.60 sec, True 2.40 sec;

* Primitive bubble sort of these 200 numbers: ST 103 sec(!), GFA 17.4 sec, True 11.4 sec.

The relatively slower performance of *True BASIC* math libraries may be, partly at least, justified by the 14-digit number storage accuracy, as compared with 11-digit accuracy in the case of the two other BASICs (incidentally, the fine performance of the interpreted *ST BASIC* in case of built-in functions is nothing strange: they are binary code, anyway).

Too Good a BASIC To Be True?

Let's face it. This is the first BASIC I am recommending to my friends (the CN readers included). It lists for $100, and sells much cheaper: my dealer sells it for considerably less. The language standard is excellent, documentation very good, seems to work flawlessly - too good to be true; so where is the hitch?

Price. *True BASIC* itself is not expensive. But in order to create stand-alone programs (which anybody could run directly from the desktop) you'll have to buy the real compiler/linker (which lists separately for another $100 and does not yet seem available). The GEM library lists for an extra $50, so the total expense at list price would be $250.

This still may not be too much for something well-designed and working nicely - but beware! The *True BASIC* standalone compiler comes only with a noncommercial license agreement. You will not be able to sell your programs without paying True BASIC, Inc. their share.

If this does not deter you, then there is nothing to think about: go out and buy it. But don't forget to turn off the stove.

LABELMASTER ELITE

The Ultimate Mailing Label Program

Review by Milt Creighton

In an earlier article I said that most of my database needs are met by any uncomplicated program that will automate my address book and throw in a mailing label capability on the side. When I said that, I didn't exactly have *LABELMASTER ELITE* in mind but I might as well have. This one, folks, is a dandy.

LABELMASTER ELITE is by Migraph, the company that brought us *EASYDRAW*. The quality shows. Initially, I bought *LABELMASTER*, the earlier version of the program and I found myself excited and disappointed at the same time. I was excited at the prospect of being able to put high quality clip-art on my mailing labels, and disappointed it would not support my printer (a 24-pin NEC P6). I called the company to ask if anything could be done and learned they had just released a version which supported 24-pin printers as well as 9-pin dot-matrix printers.

Once I got the updated version, I found myself quite happy with it. The basic program permits one to create an address listing, load a graphic image from the clip-art library, edit the image in the graphics editor or even draw one from scratch, and place it on the mailing label along with the text. *LABELMASTER ELITE* adds to these features by increasing the power of the graphics editor, permitting more data manipulation functions within the database, and proving the option of printing disk labels and index cards in addi- tion to mailing labels. Naturally, *LABELMASTER ELITE* supports both 9-pin and 24-pin printers.

One of the nicer features of *LABELMASTER* is that it uses a graphics format compatible with *PRINTMASTER*, so the graphics images from both programs can be used on your labels. In addition, many of the bulletin boards post public domain clip art which can also be used in *LABELMASTER ELITE*. Then, with the improved graphics editor, your clip art will be limited only by your imagination and artistic ability.

LABELMASTER ELITE has all the basic file manipulation functions you would expect. You can load a label file into memory, update or edit it and then save it back to disk whether or not you print labels.

Another nice feature of the program is that you may specify whether a record is a personal or business address. This will later affect whether the address is printed in three or four line format. In the basic program, only the standard printer font is accommodated (including wide and condensed forms of the font in the Freestyle mode). In *LABELMASTER ELITE*, however, if your printer is capable of using other fonts (such as pica, for example), you can now send the appropriate commands to your printer and use those fonts along with their condensed and expanded forms. You can even change fonts from one line to the next.

Data manipulation features include the ability to sort by fist name, last name, address, city, state, and zip code. *LABELMASTER ELITE* also permits files to be merged and a comment line of up to 48 characters for each record (useful for phone numbers or other data such as subscription expiration dates). The label can be printed with or without the comment line.

When printing records, you may print one, some, or all the records in the file. You have more control over mixing print styles on individual labels in the freestyle mode than you do if you print an entire file, but the clip-art can be included in either print option. It is also possible to begin printing from any point in the file rather than from the first file as in the basic program. This is an improvement because if you have a paper jam halfway through your printing, it is no longer necessary to reprint the entire file.

The basic program graphics editor incorporates such functions as loading and saving designs to disk, editing existing designs, or even drawing you own. You can flip a design vertically or horizontally, invert it, or move it on within the work area. There are also block functions which are for use within the graphics work area. The drawing tools include a pen and a line which can be used in white, gray (checkerboard), and black. *LABELMASTER ELITE* expands on that by adding the ability to create mirror images, adding cut and paste functions from a clip board, and incorporating options to add square or rectangular frames to your drawings. The drawing tools are expanded from the pen and line of the original to include box and circle options in *LABELMASTER ELITE*.

In addition to the mailing labels of the basic program the upgrade permits printing on disk labels, or index cards. The layout options for these forms include placing the graphics design on the left or right of the form with up

to eleven lines of text, a triple-wide graphics design in the center of the form with up to seven lines of text, no design with up to eleven lines of text, or printing out a disk catalog (on a disk label) with two lines of text for the title and credits.

Finally, the program is not copy-protected, so it can be run from your hard disk. I put several versions of the same program right in the same folder with the word processors I use most often. You don't have to use it just for addresses either. I recently sold off a collection of boardgames and had plans to use *LABELMASTER ELITE* to print the sales price of each game along with a logo right on the label. You might also find this utility handy for club functions, such as printing name tags which include your club logo, created using the graphics editor in the newer version of the program.

The bottom line: Many of us will probably never use all the features of this fine utility (it represents overkill for me in the graphics area, for example), but the quality of the label graphics produced and the variety of choices in text styles make *LABELMASTER ELITE* a superior product. For me anyway, it is one program I value very highly. While it may not exactly replace your favorite database, you just might find you use it more often.

ST WARS

Time to Save the World Again

Review by Rober Abram

With a name like *ST Wars*, you might expect this program to simulate the battle our trusty computer has had proving itself against formidable heavyweights like the IBM PC or Macintosh. Let's face it, that fight is over and the ST has come out on top.

Instead, *ST Wars*, by Miles Computing, is a space arcade game in which you are the last hope (naturally) to annihilate the power bases of the Tyranny and make your planet safe again. If you fail, the planet will be deinfestated and your name will be muttered in spacepubs throughout the galaxy. So button up your spacesuit and check those controls -- we're going for a ride!

As the program unfolds, you find yourself running down a hallway in which light from a red beam pulsates off the wall and bounces off your brain. As you stumble into a wall you can hear yourself in digitized speech proclaiming "Ouch!" You round a corner and see the fighter ship with the cockpit open beckoning you to approach. Climb the ladder and listen to the voice saying "Warning, red alert, launching spacecraft."

You're hurled into space at hyperwarp and reappear in an asteroid belt with a Freefloating Energy Depot nearby. Also nearby are fighters from that dreaded Tyranny lot and you know what has to be done. At your disposal is a laser cannon and seven missiles, which can be launched either as heat-seeking or camera-guided. If launched as heat-seeking, they will destroy the first enemy spacecraft they lock onto. Camera-guided missiles can be controlled by the joystick or mouse. You'll want to be conservative with your missiles since replenishing them is out of the question. The laser canon will handle most of the ships the enemy throws at you.

The graphics in this portion of the game are great as you see asteroids hurling by and the enemy in their ships trying to clip your wings. You can stay here building up points, but sooner or later you have to rendezvous with the energy depot to replenish the ship's energy for the next leg of the mission.

Once again you're thrown into hyperwarp and this time you're taken into the vicinity of a Tyranny starbase. They knew you were coming, but didn't bake a cake. Instead, as you make your approach, a horde of illwishers is sent to greet you. Pick off as many as you can before reaching the starbase.

The onboard navigation computer controls the descent to the starbase and you'll soon find yourself being attacked by unmanned suicide drones which are being launched in groups of seven. At the same time, photon blasts are being targeted at you from energy towers. It's time for a lot of action from your laser cannon, but be careful not to let it overheat.

The starbase is divided into four quadrants, each with its own system of defenses to protect the Starbase Main Launch Trench which is in the center of the four quadrants. The defenses include surface defense walkers, wedge transporters, pyramid sensors, atmospheric stabilizers, graviton ray tanks, electron blast towers, and duoplanar fighters that hound you with their lasers and missiles.

You'll need to fly into the trench before attempting the final leg of your mission since it is here where you can re-energize your ship. This is accomplished by swooping down into the trench and firing a camera-guided missile at the magnetic energy lock. Once this is destroyed, you can fly through the surface energy depot and replenish your power.

Then it's on to another trench that'll lead into the depths of the starbase and toward your main objective -- the destruction of the starbase power generator. The trench leads into a tunnel where you need to avoid hitting laser wall obstacles which will zap precious energy. Next is the obstacle room with more laser walls to avoid. The final destination, the power generator room, is just ahead. Find the red exhaust iris which is opening and closing, take aim, and fire either the laser canon or a camera-guided missile. Once the generator is destroyed, maneuver your way through another set of tunnels and then speed away from the starbase. As you escape into space, you can look back and see the base explode. Mission accomplished. Now it's time to find another starbase to obliterate.

As you can see, *ST Wars* is a game comprised of many different segments, each with its own circumstances and graphics. The surface mission on the starbase is reminiscent of Firebird's *Starglider* in terms of the need to replenish your ship's energy and the design of the enemy's defenses. Camera-guided missiles, also found in *Starglider*, is another similarity. However, *ST Wars* has many more facets than *Starglider* and I find it less frustrating to play.

Tim Hays, who also programmed *Harrier Strike Mission*, gives you almost complete control of how you want to play the game. Not only are there novice, advanced, and expert modes, but you can pick one or more segments of the game to play if you just want to practice. The peacetime option allows you to fly without a single shot being fired at you. The unlimited energy and unlimited missiles options make you indestructible.

If you liked *Starglider* you should like this game. *ST Wars* borrows some ideas from *Star- glider* but is not a clone or a copy because it enhances the similarities into a much more playable and enjoyable scenario.

ST Wars is available from Miles Computing, Inc., 7741 Alabama Avenue, Suite 2, Canoga Park, CA, 91304, (818) 341-1411. List price is $39.95

CERTIFICATE MAKER

Certified Ease for Awards to Everyone

Review by Bill Moes

We want it fast and we want it easy. Put it together ... make it look good ... next? Head 'em up. Move 'em on. --Rawhide!

Certificate Maker narrows the focus and enhances the task begun by such well-known and easily used offerings as *PrintMaster* and others. Its sole goal is awards. Certificates and awards for everything and for everyone. The humorous, the serious, the insulting, the unusual: all are represented in the 220 listings from the package. And if you need something completely different, you'll find some choices blank, to be used for anything.

Each specific certificate comes already begun, many with a graphic directly and uniquely related to the subject. There's a bit of room for your own creativity, too. You customize each with your own personal and special *bon mots*.

The basics you'll use: body text and (optionally) date and signature lines. Some will need title text as well. Choose from a set of 24 borders or leave the border blank. The text can be done in one of five fonts (serif, sans serif, script, gothic, and art deco), although the text styles cannot be mixed in any one section. Two text sizes, which can be mixed, are available. Those words can be aligned left, center, or right. Not all of these choices may be available for all certificates or for all sections of a certificate.

The process is simple. Begin by typing in the number of the certificate you will use. Thirty to 40 seconds of processing time later, it'll show up on the screen. Then, enter the text, date, and signature. The signature will be printed under a solid line so you can later pen in the real thing.

As you make the selections for each section, the program will again do a little disk and memory access. When all is complete for that section, the certificate with the changes will be

shown on the screen. This way you can easily check on how it all looks as you move along. Choices are made through the GEM menus, although clicking on a pictured section when you're looking at the entire certificate will also bring up that section for work.

Certificate Maker covers the expected categories. Business, school, home, sports, religious, and community organizations will all find enough choices to keep the printer churning. You'll find some subjects to be somewhat useless and some topics to be over certificated. (Do we really need six variations of "Best Friends"?) But you'll also find subjects you can use repeatedly and some you didn't know you'd enjoy so much. Most, though not all, certificates are sized to neatly slide into an 8" X 10" frame after a little paper trimming. Printing on high quality paper might be a good idea, too.

Although programs like *PrintMaster* can accomplish much the same thing, *Certificate Maker* does the job with style. The *Certificate Maker* graphics are not all the same size and they print out in higher quality and detail. You'll sometimes see titles which do a rainbow-like curve across the top of the certificate or notice graphics which slide along just one side of the paper.

While *Certificate Maker* shows higher presentation quality and usually offers more room for text, it lacks the excellent flexibility (and banners, greeting cards, letterheads, unlimited graphics) of *PrintMaster*. Both programs have a certain usefulness which doesn't greatly overlap.

The two-disk copy-protected set lists at $49.95. Have two drives or plan on a little disk-swapping, as the software has sections of a single certificate stored on both disks. Stickers and seals are included. This one runs with either a color or monochrome monitor. If you're after even more possibilities, take a look at *Certificate Library* ($34.95), which adds another 100+ certificates, 24 more borders, along with seals and stickers.

Nothing mind stretching. Nothing to awe or mystify or (greatly) challenge. Just something to use and enjoy. *Certificate Maker* does what it does quite well. And after you've become adept at using it, there's even a certificate for you to hang on your own refrigerator: Master Certificate Maker.

[Springboard Software, 7808 Creekridge Circle, Minneapolis, MN 55435 (612) 944-3915]

NORTHERN VIRGINIA ATARI USERS' GROUP (NOVATARI)

President.....	G. Weatherhead.	(703) 938-4829
VP-ST.....	David Galvin...	(703) 820-9543
VP-8-bit.....	Gary Purinton..	(703) 476-8391
Treasurer.....	Curt Sandler...	(703) 734-9533
Secretary.....	Bob Zimmon.....	(703) 476-5924
Membership.....	Earl Lilley....	(703) 281-9017
Training Coord..	Glenn Bernstein	(703) 455-6053
Telecom SIG...	Ted Bell.....	(703) 455-5312
	Ed Seward.....	(703) 573-3044
MS DOS SIG....	Mike Gibbons...	(703) 440-0379
SYSOP.....	Ted Bell.....	(703) 455-5312
Bulletin Boards		
8-bit.....	ARMUDIC.....	(703) 569-8305
ST.....	WAACE ST.....	(703) 280-9072
HOTLINE.....	Andrea Bonham..	(703) 534-3503

NEW MEMBERS: Dues are $20/year which includes a subscription to CURRENT NOTES. Join at the main meeting, chapter meeting or by sending $20, payable to NOVATARI, to Earl Lilley, 821 Ninovan Road SE, Vienna, VA 22180.

NOVATARI MAIN MEETING is at the Washington Gas Light Building, 6801 Industrial Road, Springfield, VA. Meetings are usually held the 2nd Sunday of each month. Take 495 to east on Braddock Rd (620) to south on Backlick Rd (617). Left on Industrial Rd. Washington Gas Light is the 2nd building on right. Schedule: 5:30, Telecom SIG; 6:00, Speaker or Demos; 7:00, Business Meeting / Open Forum; 7:30 8-bit SIG and ST Sig. (ST SIG also meets at Washington Gas Light from 5:30-9:30 on the 4th Sunday.)

Mt. Vernon / Hybla Valley, 1st Thursday, 7:30. Contact Ron Peters at 780-0963.

Sterling, Sterling Library, 7:30-9:30, 1st Wed. Contact Wayne Wilt 437-6159.

ST BBS Update. The WAACE ST BBS moved in early August. The number is now (703) 280-9072. Those wishing to have access to the WAACE ST BBS must mail a check for $7.50 payable to "NOVATARI" to: Ed Seward, P.O. Box 541, Vienna, VA 22180. There are NO CHANGES for the ARMUDIC 8-bit BBS.

Novatari Computer Education. NOVATARI is now offering computer courses for Atari computers. These courses are planned to start this fall in late October or early November just after ATARIFEST '87. If there is enough demand for a particular course, arrangements will be made to have the course scheduled earlier. Present plans for courses include the following:

(XL/XE): Amodem, Assembly Language, Atariwriter+, Bulletin Boards, DOS 2.5, Express, Synfile+, Syncalc.

(ST): Assembly Language, dBMAN, Bulletin Boards, First Word, Flash, Midi.

The price for each course session is $5 for NOVATARI members and $10 for non-members. To sign up for these courses or to request additional course topics, contact Glen Bernstein at (703)455-6053 between 6 and 9 PM.

Atarifest Banquet. After Saturday's fest, there will be a banquet at the Fairfax City Holiday Inn. Guest speakers from the world of Atari will be on hand. Only 120 tickets are available on a first-come first-serve basis. To reserve your space, send a check for $20, payable to Novatari, and a self-addressed stamped envelope to Andrea Bonham, 3344 Beechtree Lane, Falls Church, VA 22042 (703) 534-3503.

ATARI USERS REGIONAL ASSOCIATION (AURA)

President.....	John Barnes.....	301-652-0667
Vice President...	Barry Marcus....	301-926-3660
Treasurer.....	Mo Sherman.....	301-593-1076
Membership Chmn..	Richard Stoll...	301-946-8435
Educ. Liaison....	Bill Schadt.....	301-622-1547
Disk Libr.(XL/XE)	Bill Frye.....	301-345-4336
Disk Libr.(ST)...	Jeff Kellogg....	
Public Relations.	Richard Stoll...	301-946-8435
Used Equip Sales.	Lincoln Hallen..	301-460-5060

Meetings. 1st Thursday. 7:00 pm (library sales). 7:30-9:00 pm (Program) in the Temple Israel Social Hall. Temple Israel is located in Silver Spring, MD at 420 E. University Blvd. between Colesville Rd (Rt 29) and Piney Branch Rd (Md Rt 320). All meetings for the rest of 1987 are on the first Thursday, with the exception of October, when there is no meeting.

Correspondence. All correspondence, including membership renewals, changes of address, etc. should be sent to: AURA, P.O. Box 7761, Silver Spring, MD, 20904. AURA cannot guarantee CURRENT NOTES subscription fulfillment unless the member provides written confirmation of address changes, renewals, etc. to the address given above.

AURA Report for July/August 87

Meetings. Our next meeting will be Sept 3. The theme will be Desktop Publishing. We hope to look at Publishing Partner and some of the XLent Products. Vice President Barry Marcus is responsible for coordinating meeting agendas. Please contact Barry to get on the agenda. There will be no meeting in October. The November meeting will feature music. The theme for December will be games.

Member Survey. Barry Marcus is conducting a survey of hardware owned by AURA members. The results of this survey are being used to assist in program planning. Please contact Barry if you have not yet participated.

8-bit Library. The latest Antic and Analog disks are available. We are still working on the "starter kit". More reviews are needed for the reference manual on disks 41 to 80.

16-bit Library. Jeff Kellogg has order forms for members who want to obtain material from the 16 bit library. Jeff now has almost all of the Current Notes Disks. Send Jeff an order form for the disks you want and then pick them up at the next meeting. There are too many disks in the library to allow us to provide anything better than pot luck for spot sales.

We will try to have a modest inventory of the latest releases on hand. Try to get your submissions to Jeff Kellogg well before the meeting. Members of other groups are welcome to order AURA library disks by mail (send your order to our P.O. Box).

DEMONSTRATIONS. Many people were very happy with our experiment in setting up concurrent 8 and 16 bit demos. This gives more time for the material

and people can filter out things that are not of interest to them. Now all we need are additional volunteers to make presentations.

* 8 bit demo. Walter Jones took the audience through SpartaDos. There was no 8-bit demo at the August meeting.

* 16 bit demo. John Barnes discussed the use of command shells using DO IT!. Terry White gave an excellent demo of CAD-3D. The new version of this program is much less of a toy than the old one.

BBS's. Note the new phone numbers for the WAACE BBS's.

MEMBERSHIP. AURA dues are now $20 per year for Regular Members and $5 for Library members. Regular Member dues include 10 issues of Current Notes magazine. We are discontinuing the practice of sending out one copy of Current Notes past the expiration date. All members are hereby reminded that subscribing to Current Notes is NOT a prerequisite for membership in AURA. If you do not want the magazine you can join for $5 without losing any privileges. We are attempting to institute a reminder system for membership renewals.

AURA Roster. Copies of the AURA roster are available at meetings or by written request to Richard Stoll (enclose a self-addressed stamped envelope).

Treasurer's Report. Mo Sherman reports that we have a balance of about $2000. Our rent with Temple Israel is paid through May of 1988. Mo has been working to generate advertising income and he would appreciate help along this line. We are helping to finance the Tee Shirt sales for the Atarifest, if all goes well this should yield a tidy profit if all goes well.

NATIONAL CAPITAL ATARI USERS' GROUP (NCAUG)

President.....	Peter Kilcullen..	202-296-5700
Vice President.	Mike Pollak.....	703-768-7669
Treasurer.....	Allen H. Lerman..	703-460-0289
XL/XE Librarian	Mike Pollak.....	703-768-7669
ST Librarian...	Enrique Seale....	202-295-0112

MEETINGS: 3rd Tuesday, 5:30 - 8:30 pm, room 543, National Science Foundation offices, 1800 G St., NW, Washington, DC. Closest subway stop is Farragut West on the Blue and Orange lines. Building is identified by sign for Madison National Bank on the corner. Front entrance is on west side of 18th between F and G.

NEW MEMBERS: join at meeting or send $20, payable to NCAUG, to Allen Lerman, 14905 Waterway Dr, Rockville, MD 20853. Membership includes CURRENT NOTES subscription.

WOODBRIDGE ATARI COMPUTER USERS' GROUP (WACUG)

President.....	Jack Holtzhauer..	703-670-6475
First VP.....	Arnie Turk.....	703-670-2547
Board Member.....	Bill Parker.....	703-680-3041
Board Member.....	Lou Praino.....	703-221-8193
Board Member.....	Darrell Stiles...	703-494-9819
Treasurer.....	Curtiss Pieritz..	703-494-3704
Secretary.....	Frank Bassett, Jr	703-670-8780
Librarian.....	Charles Stringer.	703-786-8755

MEETINGS: 3rd Tuesday 7-10PM, Community Room, Potomac Branch, Prince William County Library, Opitz Blvd., Woodbridge, VA. Entering Woodbridge from either North or South on Route 1, proceed to the intersection of Route 1 and Opitz Blvd. (opposite Woodbridge Lincoln-Mercury). Turn West on Opitz and take first left turn into the library's parking lot. The Community Room is located to your left immediately upon entering the main building.

NEW MEMBERS: Initial membership fee is $10/yr plus $1 monthly dues. Join at meeting or send check, payable to WACUG, to Frank W. Bassett, 15313 Blacksmith Terr, Woodbridge, VA 22191.

FREDERICK ATARI COMPUTER ENTHUSIASTS (FACE)

President.....	John Maschmeier..	301-271-2470
Vice President...	Mike Kerwin.....	301-845-4477
Treasurer.....	Buddy Smallwood..	301-432-6863
Librarian.....	Jason Harmon.....	301-663-1176
Secretary.....	Bill Mentzer.....	717-762-7281
SYSOP.....	Chuck Grasser....	301-831-9092
Bulletin Board.....		301-865-5569

MEETINGS: 4th Tuesday, 7 - 9:30 pm, Walkersville H. S., MD Route 194, 1 mile north of MD Route 26 (Liberty Rd).

NEW MEMBERS: Dues are $25/year/family. Join at meeting or send check, payable to FACE, to Buddy Smallwood, PO Box 300, Keedysville, MD 21756.

SOUTHERN MARYLAND ATARI USERS' GROUP (SMAUG)

President.....	Thomas Crosby....	301-843-1310
Sec/Disk Lib.....	John J. Smith....	301-862-9490
Treasurer.....	Samuel Schrinar..	301-843-7916
Newsletter Ed....	Leroy Olson.....	301-743-2200

MEETINGS: 2nd Thursday, 7:30 pm, John Hanson Middle School in Waldorf, MD. Take MD Route #5, proceed about 1/2 mile East of the intersection of Route 301 and take first left past the Kinney show store to school.

NEW MEMBERS: join at the meeting or send $20 check, payable to SMAUG, to Sam Schrinar, 2032 Alehouse Court, Waldorf, MD 20601.

CLASSIFIED ADS

[Classified Ads are free to Current Notes subscribers and WAACE club members ($5 to anyone else). Send your ad to CN Classified, 122 N. Johnson Rd., Sterling, VA 22170. No commercial dealers please.]

TEXAS HOLDEM POKER DISK. Get ready for Las Vegas poker! Requires 8-bit Atari 48K RAM, Atari BASIC and joystick. Not for ST or PC models. 8 computer opponents, rotating blind-bet, $10-20 limit-game. Send check or money order $29.95 plus $3.00 shipping. Maryland residents ad +5% sales tax. Order from: Kumikata, PO Box 2772, Kensington, MD 20895.

1040 ST color system with hard disk, 3 disk drives, 2 printers, desk, modem and TONS of software. I am selling everything separate. Call (703) 256-0927 and ask for Andrew.

CN REGISTERED CLUBS:

Members of registered clubs receive CN at a discount rate ($17 instead of $20/year). To become a registered club, your club should send in an initial subscription list of 10 percent of the membership or six members whichever is less. For more information, contact Joe Waters, 122 N. Johnson Rd., Sterling, VA 22170.

ALLENTOWN BETHLEHEM EASTON'S ACE, PO Box 2830, Lehigh Valley, PA 18001 BBS (215)759-2683.
CHARLOTTE AUG, Joe Venturelli, PO Box 240313, Charlotte, NC 28224 (704) 366-4320.
CENTRAL ILLINOIS AUG, Robert Handley, 1920 East Croxton Ave., Bloomington, IL 61701-5702 (309)828-4661.
FT LEAVENWORTH ATARI GROUP, John L. Hutchinson, PO Box 3233, Ft. Leavenworth, KS 66027 (913)651-5631.
GR. RICHMOND ATARI SUP. PROGRAM, S. Thomas Marvin, 1420 Yale Ave., Richmond, VA 23224 (804)233-6155.
HUNTSVILLE AUG, Levin C. Soule, 3911 W. Crestview, Huntsville, AL 35816 (205)534-1815.
LITTLE ROCK ATARI ADDICTS, Keith Steensma, 28 John Hancock Circle, Jacksonville, AR 72076 (501)985-2131.
MARYLAND ATARI COMPUTER CLUB, Jim Hill, 8775-C Town & Country Blvd, Ellicott City, MD 21043 (301) 461-7556.
NAMELESS AUG, Dana O'Hara, 3475 Manassas Ct, Davidsonville, MD 21035 (301) 798-0566.
PACKERLAND ACUS, Randy McSorley, 339 S. Maple St., Kimberly, WI 54136 (414)788-1058.
PIEDMONT TRIAD AUG, Hardy Hall, Rt. 9, Box 274C, Reidsville, NC 27320.
ROCKLAND ACUG, Richard Bloch, 29 Riverglen Dr., Thiells, NY 10984 (914)429-5283.
SOUTHCENTRAL PA ACE, H. Richard Basso Jr., PO Box 11446, Harrisburg, PA 17108-1446 (717)761-3755.
SOUTHSIDE TIDEWATER ATUS, Buck Maddrey, 5245 Shenstone Circle, Virginia Beach, VA 23455 (804)464-2100.
TRIANGLE COMPUTER CLUB, Donald Nelson, Rt. 3, Box 760, Hillsborough, NC 27278 (919)942-2764.
WICHITA ACE, Marilyn Merica, 1722 N. Murray, Wichita, KS 67212 (316)722-1078.

New Subscribers:

CURRENT NOTES annual subscription rate is $20 ($36 for 2 yrs). Foreign subscriptions (surface rate) are $30 per year. Foreign air mail rates: $35 (Canada and Mexico); $40 (Central America, Caribbean); $50 (S. America, Europe, N. Africa); $60 (Middle East, Africa, Asia, and Australia). All foreign subscriptions are payable in US dollars. Send check to CURRENT NOTES, 122 N. Johnson Rd., Sterling, VA 22170.

LIST OF ADVERTISERS

Classified Ads..... 77
Advanced Technology Networks 301/937-3605 73
Amgen, Inc. 301/762-8870..... 62
Applied Computer Associates 301/948-0256. 4,79
Atarifest '87..... 80
Avant-Garde Systems 904/221-2904..... 2
Beckemeyer Development Tools 415/658-5318 35
Berkeley Microsystems 415/530-3436..... 65
CACI Graphics Services 703/876-2231..... 5
Cal Com Inc. 301/933-3074..... 73
Classified BBS 703/680-9596..... 71
Computer Service Land 703/631-4949..... 31
Current Notes ST Library..... 38,39
Diskcovery 703/536-5040..... 63
Disk Publications, Inc. 800/345-6467..... 75
Electronic Clinic 301/656-7983..... 47
Font Factory 46
Full Spectrum Computers 703/221-6620..... 69
Grafikon, Ltd. 301/937-3394..... 78
Imagists Group 703/764-0835..... 27
L & Y Electronics 703/643-1729..... 53
Langley Publications 703/241-2131..... 58
Logical Design Works 408/435-1445..... 58
NOVATARI XL/XE Library..... 17
Proco Products 401/568-8459..... 37
Software Plus 301/932-8331..... 59
Supra Corp. 503/967-9075..... 74
TDI Software 214/340-4942..... 62
Terrific Corp. 617/232-2317..... 22
Toad Computer Services 301/544-6943..... 71
XLent Software 703/644-8881..... 9

ATARIFEST D

WHEN: SAT 24 OCT 87
SUN 25 OCT 87

WHERE: Fairfax High Sch
3500 Old Lee Hgh

Hey, Hey,Hey; it's rapidly getting to be that time again! ATARIFEST'87
The fine tuning goes on and we are determined to bring the Washington DC area ATARI e
usiasts the **"quintessence"** of computer fairs.

Saturday, October 24th, from 10:00am to 5:00pm vendors, dealers, local user group memb
and Atari enthusiasts will gather at the Fairfax High School to share the latest in computer
elopments. To ensure the latest and most innovative..ATARI CORP will attend in force!
Sunday, October 25th, from 1:00pm to 5:00pm those attending will be able to coninue sharing
andwill hear ATARI CORP describe some of what's out there on the horizon in the computer
field. Also a special panel will discuss ATARI's role in the microcomputer marketplace as well
as well as hearing about high tech developments in the compact disk computer field!

For out-of-towners, we have obtained dis-count rates at a near-by Holiday Inn. Use the registration form at the right to make reservations.

There will also be a gala banquet at the Holiday Inn on Saturday night; @ $20.00/person (with an open cash bar). Those interested can contact the Banquet Coordinator:

Ms. Andrea Bonham
(703) 534-3503

Vendor queries may be directed to the Vendor Coordinator:

Mr. Palmer Pyle
(703) 437-437-3883

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3535 Chain Bridge Road
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+6% tax

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Other questions may be directed to our Information Coordinator:

Mr. Randy Ingalsbe
(703) 644-0159

OR

ATARIFEST'87 Chairman:

Mr. Donald G. Elmore
506 N. York Rd.
Sterling, VA 22170
(703) 444-9053

SEE YOU THERE